THE OIL WEEKLY

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The Oil Man's Calendar

FEB. 9–12	American Institute of Mining and Metallurgical Engineers, Annual Meeting, New York.
10	American Petroleum Institute, Division of Production, Pacific Coast District, Los Angeles.
26–27	American Petroleum Institute, Division of Production, Southwestern District, Dallas, Texas.
28	North Texas Oil and Gas Association, Wichita Falls, Texas.
MAR. 23–25	American Society of Mechanical Engineers, Houston, Texas.
26–27	American Petroleum Institute, Division of Production, Mid-Continent District, Tulsa.
APRIL 9–10	American Petroleum Institute, Division of Production, Eastern District, Pittsburgh.
16–17	National Petroleum Association, Thirty-ninth Semi-Annual Meeting, Hotel Cleveland, Cleveland, Ohio.
21–24	American Association of Petroleum Geologists, Twenty-seventh Annual Meeting, Cosmopolitan Hotel, Denver, Colorado.
22–24	Petroleum Industry Electrical Association, Shreveport, Louisiana.
MAY 25–28	American Petroleum Institute, Mid-Year Meeting, Biltmore Hotel, Oklahoma City.
NOV. 9–13	American Petroleum Institute, Chicago.

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Formerly it was easy to increase production—just install more machine tools and hire more operators. Today it is almost impossible to get machine tools quickly and it is equally difficult to obtain skilled operators.

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OPERATOR TRAINING Through PICTURES - TEXT BOOKS - PERSONAL MAILINGS

The Changing Panorama

"All Out" War Plan Will Affect Oil

Some Significant And Far Reaching Influences Are Indicated

Significant influences on the future course of oil are presaged by President Roosevelt's call for an "all out" scale of war production.

Collectively, the program indicates vastly increased military, naval and industrial consumption of petroleum. This will offset, at least partially but perhaps not completely, the anticipated decline in civilian motorist consumption resulting from the automobile and tire rationing regulations. However, at the same time will so change the demand for types of refined products that a serious problem of balancing refinery output looms (see third column this page).

Even if not completely attained, such a program as the President outlined will mean far more to the industry than vast enlargement of military, naval and industrial consumption.

There will be need for even greater quantities of 100-octane-aviation gasoline than planned in the present "triple capacity" expansion program the industry has undertaken. Consequently, speedy construction of additional aviation-gasoline plants is indicated, along with higher allowables for fields producing crude oils especially suitable for making this product. Already Petroleum Coordinator Ickes has asked the state regulatory agencies to increase the output of such fields, and additional boosts appear probable.

The increase in number of airplanes, tanks and other military vehicles, and the more active service they are to see, presages that the quality of gasoline made available to the motoring public is to be lowered. Already there is a shortage of tetraethyl lead, required to raise gasoline octane ratings to the 90 and 100 levels specified for military usage, and now that warfare demand for lead is to gain substantially the public can expect to go without premium-grade gasolines.

The great expansion of ship construction and the extended service routes on which they must operate to move supplies to the present theaters of war, plus the operation of industrial plants at rates never before contemplated by any nation, and increased operations of railroads and power plants, forecasts that great quantities of heavy fuel oil will be required. Rationing of this product to non-defense users appears probable. Stocks of this commodity are about 6,000,000 barrels less than a year ago. But there are comparatively few large non-defense users of heavy oils, so, while the industry on one hand will be asked to furnish enlarged quantities of high-octane products, it also will be called upon to supply heavy oils in greater volumes. Fields and plants especially suited to yield heavy fuel oil will be operated at increased rates.

The shipbuilding program no doubt will include a large number of tankers. The number and rate at which tankers will be launched, judging by recent trends, should more than offset sinkings. Therefore, the nation's tanker fleet should grow. This should afford some relief to what otherwise would become an acute tanker shortage. But due to the necessity of operating large numbers on the extended route to the Far East war zone, the degree of relief will not be material—although certainly helpful.

The entire war production program of the President, of course, presages that use of steel for manufacturing implements of war is to increase tremendously. In turn, this indicates that less and less metals will remain for non-defense consumption. It will be necessary to have higher and higher priority preference ratings if deliveries of metals are to be obtained. Therefore, while oil will be expected to conserve its steel usage now more than ever before, on the other hand the recognized importance of petroleum to the whole war production program probably will obtain for it a higher preference rating relationship. After actual military supplies, oil equipment likely will come close to the top of the priority list. Therefore, the influence of the steel shortage on petroleum probably will not be as acute as with many other industries—but it will be critical enough to be felt.

Unbalanced Refinery Output Probable

Enlarged Demand For Some Products May Cause A Surplus Of Others

Somebody seems to have overlooked a very important item in the effect of a rubber shortage on the oil industry. We hear that the rubber shortage will reduce gasoline consumption by a very large percent.

It must not be forgotten that fuel oil and lubricating oils and gasoline are all made through processes which mean that each of these products is a by-product in the manufacture of the others. Demand for fuel oil for Naval and industrial use as well as railroad and marine transportation, is far above normal and will likely increase materially. This means that to produce the required amount of fuel oil a great deal more gasoline than is normally required, will have to be produced as a by-product. In past years the heavy summer demand for gasoline has resulted in the addition to storage of fuel oil which winter consumption for heating has used up. Now under the emergency the demand for heavy oils is strong both in summer and in winter. Fuel oil, as a matter of fact, is the one product of which there is not a great abundance—fuel oil and aviation gasoline. Aviation gasoline also is in large part a by-product, in the making of which much commercial gasoline is made.

In normal times it has been possible to build steel storage for a surplus product, if the operator decides to do so. But now that is out.

So if gasoline consumption is radically reduced and the production continues to increase due to the demand for by-products, what will the answer be?

The oil industry has learned through years of bitter experience that one of the most disturbing factors in the market has been the difficulty of maintaining proper balance between fuel oil, gasoline, and other by-products from refining processes.

We can not store a great percentage of surplus gasoline, although

gasoline stocks should be increased. But what shall we do with it?

What is happening in gasoline probably is happening in many other lines in many other industries. This situation shows the danger of carrying a planned economy to the nth degree without a full consideration of the experience of the past.

Manufacture of synthetic rubber by oil companies has come in for a considerable amount of discussion in Washington. The Petroleum Industry Council has considered it and a meeting of technical men employed by petroleum refineries familiar with the subject, will be held in Washington early next week. This meeting is the result of a resolution passed by the Petroleum Industry Council.

There have been many estimates heard as to what would be needed to provide enough synthetic rubber to take care of the country's needs. We have heard estimates that an investment of $200,000,000 would do the job within a two-year period. A definite program may come from next week's meeting in Washington.

Crude Prices . . .

Unless OPA permits an increase in crude oil prices very soon the chances of obtaining higher prices will be come very dim. Price control in the form of legislative law becomes more likely now that the nation is at war. Press of other affairs probably will prohibit enactment before very late January or early February, and it is during the interim between now and that period when Congress may enact a price-control measure that oil must get a better price—if one is likely to be forthcoming at all.

Nazis Get U. S. Oil . . .

Over 40,000 barrels of high-grade lubricating oil for the German Luftwaffe were among 127,740 barrels of United States petroleum products which went to Spain during November, according to the "Spanish News Letter," published in London.

"Spanish olive oil is being exported in such quantities to be turned into fine lubricants for Germany that Spaniards, who use it in their cooking, must go without," states the paper, adding that there is vast motor traffic along the newly reconditioned road from Lisbon to the Reich via Geneva.

War Role of Gas . . .

Much has been written about the importance of petroleum to the nation's war program, but little has been said about the role of gas.

Many new uses have been found for gas in the past score years, especially in manufacturing processes and as a result the use of this commodity for that purpose has increased sharply. The modern tank has 15 different steps in which gas is used to strengthen armor plate so as to prevent artillery fire. Forty-ton battleship gun turrets, 50 feet in diameter, are being annealed in a single operation. A million cubic feet of gas is used in this process to bring furnace temperatures up to 1200 degrees. Munitions of every description are being made with gas-fired equipment, which ranges in size from giant open hearth and reheating steel-mill furnaces to tiny torches for instrument makers.

Many other uses for gas are found in forging, fabricating, processing, welding and riveting operations. More gas will be used by industrial customers during the next few years, and expanded army camps and kitchens will use more for heating and cooking.

INCLUDING OUR EXPERIENCE

As members of the petroleum industry we should be ready to give to the nation everything we can to aid the cause of national defense—including our experience.

Petroleum products are the life-stream of our war effort. That life-stream must circulate fully and freely. Nothing should be allowed to interrupt it. Years of experience have taught the members of our industry the way in which we can best produce, refine and deliver these essentials of modern war. That experience should be accepted as part of our service of the government.

The government has profited by our experience in the past. When certain elements in the industry attempted to persuade the government to adopt a policy of shutting down domestic production of oil and relying upon foreign supplies, the domestic industry by making available its experience prevented this blunder. Had such a policy been then adopted, we would not have the vast reserves upon which we are drawing today. We would have been forced to rely upon fleets of tankers which would be inviting targets for the enemy. Repeatedly since then the experience of the oil industry has aided the government in the development of sound and constructive programs.

Today one of the most important contributions we can make is our willingness to do all in our power to make available to the government our best thought on the many problems related to the full enlistment of the industry in the public service.

Let us give all we have to the nation now—including our experience.—*Frank Buttram, President, Independent Petroleum Association of America, in January "Independent Monthly."*

Tankers Transferred? . . .

The sudden and sharp increase in railroad movement of petroleum into the Atlantic Seaboard, after weeks of steady decline, indicates that the Pacific war already has resulted in either the diversion of coastwise tankers from the Gulf-East Coast service to the West Coast, or that such transfer is considered so certain companies are beginning moving to alleviate an immediate possible shortage in the Eastern area.

Rail movements during the week ended January 3 totaled 2005 cars, a daily average of 286 compared with 271 and 249 cars respectively the two preceding weeks. Thus nearly 10,000 barrels of additional petroleum was moved to the East Coast per day by rail than two weeks ago.

Important Pipe Line . . .

"The biggest oil pipe line completed anywhere in the world during 1941 will go into operation throughout its full length within a few days carrying refined products where they have never been carried before by this method."

In these words, OPC on January 7 announced that in the near future the southeastern pipe line running the 456 miles from Port St. Joe, Fla., to Chattanooga, Tenn., will go into full operation. The line already is operating as far as Atlanta, and will open the rest of the way upon the filing of the necessary tariffs, initially handling 40 percent of its rated load and slated to deliver 30,000 barrels a day upon completion of pumping installations.

"Not only will this pipe line save the days that are now consumed by ocean hauls around the Florida peninsula, it will carry its cargo without the hazards that now attend ship movements," Ickes said in emphasizing the importance of the line to the war effort. "A pipe line cannot be sunk."

EDITORIAL COMMENT

Red Light

By RAY L. DUDLEY, Publisher

IT HAS taken the oil industry more than eighty years to develop the myriad of methods and practices which are generally known as oil-industry procedure. It has taken more than 150 years for the United States to develop the industrial economy and practices currently in use—a slow building upon experience. It has taken even a longer period to develop our national mode of life. There have been occasions when industrial practices and the mode of national life have been seriously affected and even diverted momentarily, but past experience has never been discarded.

Now, in the emergency created by such a war as we have never anticipated before, we find it necessary to make some drastic changes. *There is a great temptation to throw into the discard all that we have learned and substitute for experience arbitrary theories under the thought that they are necessary to win the war.*

All of us realize that we must bend every possible effort toward winning the war, and many of us realize that the best way to win the war is to profit by past experience rather than to proceed on a new and completely uncharted course—or ape the totalitarian powers under what seems to us to be a shamefaced admission that our own past thinking has been cockeyed.

The oil industry is as vitally affected by the new planned economy as any other industry. The oil industry, too, faces the necessity of revamping its operations to the new and greater emergency. If there are not a great many serious mistakes made before the new system goes into complete and efficient effect, we shall be greatly surprised.

Back of the practical minds which are assembled in Washington is the insistent urging of the Army and Navy for all out effort. We can understand the feeling back of this insistence. We can understand, too, the pressure which such insistence can yield. But we have not changed from our underlying belief that common sense is as necessary in time of war as in time of peace . . . that *unnecessary* disturbance of the national mode of life or industrial practice will cost the nation more in confusion and inefficiency than it will gain in additional supplies.

This, of course, does not mean that we favor anything but the best planned and efficiently executed procedure of production. We are for that regardless of how much it hurts—but every precaution should be taken to see to it that the hurts are not unnecessary.

Specifically referring to the oil industry, it may take some time for either re-adjustment to, or the improvement of "M-68." It might have been better if the industry had been handed M-68 and its necessary forms, with a two weeks' period for study before it became effective. Possibly, though, there might have been a tremendous rush to start new wells during that "study period," although it would have been an unwise operator, indeed, who would have been tempted to start, out of his available supplies, unnecessary wells.

As it stands, the falling off in new well starts has amounted almost to a stoppage. This may last as long as a total of three weeks to a month—precious time lost.

M-68 obviously is not intended to stop oil-well drilling. It is intended to make materials available for such wells as will produce the greatest good in defense. It sets forth definitely numerous conditions, officially known as exceptions, under which materials may be used and a favorable priority rating granted. It also makes provision for unanticipated circumstances. That such circumstances, hence exceptions, will prove numerous is to be expected.

The Coordinator is fortunate in having an excellent staff of men who are patriotically sincere in desiring to render efficient service to their country. For that reason we assume that the exceptions offered will be recommended and granted in a spirit of complete fairness.

As to the ultimate effect of M-68, we are not sure. Neither is anybody else. We fear greatly that if exceptions are not numerous, we may find ourselves in the position of not having enough oil, even if civilian consumption is cut as it is apparent it will be for reasons outside the oil industry. We do not have the figures on which to base a positive statement, but we do not believe that there are enough 40-acre locations to do the job ahead of us. We are right now engaged in the job of trying to get the answer to that question.

Yesterday we talked with a substantial—but not a major operator, on a piercement type dome in the Gulf Coast section. This company has 18 wells producing on this dome. To sustain its production during 1942 will require the drilling of four more wells and the cleaning out of three more. A 40-acre pattern, of course, is out of the question, so an exception is anticipated. We suspect that throughout the United States a far greater number of wells will be required to sustain production than is generally thought.

It would be fine if a finished plan could be handed to the oil industry which would work perfectly, giving the ultimate possible production with the minimum expenditure of drilling equipment. But we cannot expect to have that without a period of time spent in working it out. It would be a miracle if a few months study could provide an efficient substitute for that which has taken more than 80 years in the making.

So let us be as patient as it is within the nature of an oil man to be. Let us be free with constructive criticism. We are all working to the same end—we in the oil business, and the Petroleum Coordinator and his staff—and that common end is the winning of the war and the wiping of Totalitarian menace from the face of the earth.

Liberal Exemptions to M-68 Order Appear Probable

ALTHOUGH Conservation Order M-68 as written applies to every drilling and producing operation, with the exception of in no way restricting supplies for maintenance and repair of equipment already installed, there will be liberal and practical applications of its provisions so as not to impose too great a handicap on either operators or suppliers of the industry. Numerous exceptions will be made, especially for some time, to the 40-acre spacing provisions of the order, and wells under way when the order was issued on December 23 in all probability will not be hindered. New preference rating orders and amendments that are due to be issued immediately will clarify the confusion currently existing in the industry with respect to priority preference ratings. These were some of the encouraging words brought to the oil industry at an informal meeting between James E. Hughes, petroleum representative of OPM, and the Petroleum Equipment Suppliers Association in Dallas on January 5.

The meeting opened with Hughes painting a general picture of the priority or preference rating situation, the sale and use of equipment, and discussing some phases of Conservation Order M-68. Afterwards much time was devoted to a question-and-answer forum. Actually the meeting amounted to an interview with Hughes, in which several important confusing phases of the industry position under recently issued orders were clarified so far as he was able to go at this time.

Preference Rating Picture

At present the priority or preference rating picture of the industry is puzzling and confusing, Hughes declared, because only two segments have been issued, the P-83 and M-68 orders. P-83 is the instrument by which materials, equipment and supplies are brought to the petroleum supply house. M-68 is the first of a series of industry conservation orders, regulating use of equipment by the industry itself, but providing no actual means of obtaining equipment preference ratings. It was intended, before P-83 was issued, that another order would give definite preference ratings to orders or deliveries of equipment to users on a graduated scale for various applications within the industry. This order (P-98) when issued will constitute the outgoing door from the supply house, while P-83 will be the incoming door to the supply house. M-68 will govern use of the equipment by oil companies and drilling contractors.

Admittedly, there is a very grave inconsistency in the current situation, because P-83 contains a provision which states none of the materials received under the ratings given by P-83 can be shipped from the supply house except on rated orders, and there is no instrument by which all orders can be rated until P-98 is issued. Currently, the only means by which the petroleum industry receives any preference ratings are through P-100 (the repair, maintenance and supply order), the PD-1 application form or under project ratings (which largely apply to the refining branch), so there is machinery by which materials, supplies and equipment can flow into the supply house but the door by which they can get out to the oil companies is very narrow.

The P-98 preference rating order, which will clarify this situation, is written and due to be signed immediately. It will cover the petroleum industry completely, starting out with production, through refining, transportation, marketing and everything. Generally speaking, the ratings probably will be higher than customarily granted most industries. It will be very complete, even superceding P-100 so far as the petroleum industry is concerned. Meanwhile, until P-98 is officially issued, the industry should continue to use P-100 where it will apply.

There is no particular significance so far as importance is concerned to the dates on which the various orders have been issued. P-83 was the first to come out, because of the mechanical difficulties involved in getting in the reports supply houses must make before they can receive any ratings on materials. Therefore, this order was gotten out as quickly as possible, so that the information obtained could be accumulated and prepared for submission. M-68 came out for no particular reason, except that it was ready to be discussed and put through. Ordinarily the procedure, if there had been plenty of time, would have started out with what will be P-98 preference rating order. The M orders, which are the conservation orders, would have been next, and P-83 would have been last. But the mechanics or mechanical difficulties inherent in P-83 made it wise to bring that out first.

Limitation of Materials

It is possible, Hughes warned, that there will be a further order written which will be designed to place some sort of limitation on the number of wells that will be drilled in 1942. Inasmuch as the writing of it has not been begun, he could not say whether it would be based upon the number of wells, the amount of steel needed, or just how it would be written. But, he continued, there is under very serious consideration some sort of limitation on the use of materials by the petroleum industry.

"If you could see the picture in Washington—if you could see the demands, and measure those demands against the supplies available, I think," Hughes continued. "you would voluntarily say 'We don't need so much of this, and where we have been using this in the past in this way, we are going to cut down on that use by applying such and such a method to it... The demands for material are going to make necessary, I am satisfied, some sort of curtailment of its

use in the petroleum industry before long.'"

Many Spacing Exceptions

The thing that apparently concerns the industry most in Conservation Order M-68 is the spacing pattern, which calls for 40 acres on oil and 640 acres on gas wells. It is very well understood in Washington, Hughes declared, that strict adherence to the provisions of that order as written would in only a minority of the cases result in any beneficial effects, either from the point of view of conservation of natural resources or savings in what is often called strategic materials.

There are situations where 40-acre spacing will do the job, where adherence to a 40-acre pattern will save steel and other equipment which are necessary to the production of petroleum, but in at least 50 percent of the cases exceptions are going to have to be granted because 40-acre spacing perhaps will not exhaust the field, and furthermore, would result in no saving in materials. So Washington is expecting a flood of requests for exceptions to the 40-acre spacing provisions, and also some requests for exceptions to the 640-acre spacing provision for gas fields.

Conservation Order M-68 provided three forms (Page 12, THE OIL WEEKLY, January 5, 1942) for making applications for exceptions to the provisions of 40-acre spacing. One of these forms (OPC Form PD-214a) is designed to meet the situation where an exception should be granted for an oil field to the 40-acre ruling. Suppose John Smith applies for an exception to his particular situation, if he owns 40 acres or 500 acres in the specified field, and his situation is no different from that of any other operator in the field, therefore he is not a special case. Anything Smith says which would sell the office of OPM the idea that exceptions he requests should be granted, would apply just as much to Tom Jones as to John Smith. Therefore, the request for exception should be made for a field exception.

Another exception form (OPC Form PD-214b) is for the man who has an individually peculiar situation. Assuming that the field itself should be maintained on a 40-acre spacing, a man with a smaller tract would file a different kind of application, on a different form. Applications can also be made for exceptions in connection with the use of material for pumping.

Providing these forms should indicate that numerous requests for exceptions are anticipated, and further that granting these requests will be on a pretty liberal basis, Hughes said.

All requests for exceptions, whether spacing regulations or other phases, are to be made by oil companies to the Office of the Petroleum Coordinator. They may be addressed to either the respective district offices or direct to the Petroleum Coordinator's office in Washington. OPC will make recommendations on each application to OPM, which will be the final authority as to whether the exception will be granted or refused.

Wells Under Way Exempt

Hughes was asked to what extent M-68 applied to operations being drilled on December 23, date of its issuance, and he replied that although M-68 as written applied to everything, it was realized this was one of its shortcomings and a forthcoming amendment would clarify this situation.

"I think," he continued, "we have had about 1500 requests for exceptions in connection with wells which were started prior to the issuance of M-68. All these requests, I am satisfied, will be granted and materials will be supplied for the wells under preference rating. We are certainly coming out with a revision of that order, which will be called an amendment, and which will have a specific provision in it permitting delivery of material and equipment to wells started before December 23, 1941."

However, all wells started since December 23 certainly come under M-68, and exemptions cannot be expected except on a merit basis. "Be careful in this connection," Hughes cautioned, "and obtain your exception approval first."

Compliance Responsibilities

Conservation Order M-68 is based strictly on the use of equipment, and the violation of its terms would be on the part of the user of the material. Suppliers do not commit a violation except when they know that the user is violating the terms of the order.

The provision in M-68 that suppliers can not sell material where they know or have reason to know that it is going to be used in violation of the order, prompted Hughes to be asked if it was necessary for a written statement to be obtained, and if so, what sort of statement would afford the manufacturer or supplier the greatest protection.

"Suppliers," Hughes replied, "cannot in fairness be drafted as the compliance division of OPM, and I seriously question whether anybody could decide whether the supplier knows or could have reason to know if oil companies are living up to the provisions of M-68. The obligation in connection with this provision that is going to be placed on suppliers will be a little different from what simply shows up in M-68. The purchase orders which suppliers receive and on which they deliver materials will be rated under P-98, when issued, and in P-98 there probably will be a provision that operators cannot buy materials without an endorsement of their order to the effect that they have read and understood and are complying with the provisions of P-98. Another provision of P-98 will be that the material is to be used in accordance with the provisions of that order as well as other petroleum conservation orders, so when P-98 is issued each purchase order will contain that endorsement. The extent of the supplier enforcement compliance is to see that this endorsement is contained in every order. However, until P-98 is issued suppliers need not require such endorsements."

Equipment on Hand

"So far as suppliers are concerned, there is nothing to prevent the sale of equipment from stocks on hand. It can be sold to anybody, except, of course, do not do it where it is known it will be used in violation of M-68," Hughes stated.

However, M-68 so broadly covers all usage of equipment that oil companies cannot use material in their own warehouse inventories where wells do not conform to the provisions of the order, unless they first obtain an exception approval from OPM.

Applies to Foreign Shipments

There is no exception made for shipment of equipment abroad, the provisions of M-68 covering foreign orders as well as domestic. Before we get through, Hughes asserted, all the petroleum regulations will apply to foreign operations just as much as to domestic operations, the reason for that being that it is very apparent the United States is going

to have to be the supplier to all Allies and friendly nations.

On foreign shipments it also is necessary to obtain an export license. The OPM conservation orders will not change this situation in any respect.

Questioned as to how manufacturers or suppliers in the United States were to know whether pipe and materials shipped to South America would be used on a wildcat, a 40-acre spaced well, or a well on 2 acres, Hughes again stated that OPM was not going to ask suppliers to handle compliance. However, he said that foreign customers were going to learn quickly that it was necessary to place an endorsement on each order stating the equipment would not be used in violation of Conservation Order M-68.

But since there is no provision for requiring an oil-company endorsement of all orders until P-98 comes out, Hughes was of the opinion that foreign orders could be shipped without the endorsement until P-98 is issued.

Dual Sands Not Exempt

Conservation Order M-68 provides for not more than one well on each 40-acre surface spacing, therefore four wells cannot be drilled on a 40-acre tract although four different oil-producing strata exist beneath it. However, such instances might be a basis for an exception request from the 40-acre spacing, and such requests, he thought, might be granted.

Condensate Fields

According to M-68, as now written, no exception is provided for condensate fields, but remember, Hughes pointed out, "that all these things can be modified by blanket provision or individual rating and individual exceptions, so that there is no reason why a case can not be treated with in connection with this provision."

One of the exception forms provided for in Paragraph (c) (9) of M-68 applies to requests for exemptions in condensate fields.

Repair, Maintenance Exempt

Hughes assured the gathering that no currently producing wells were to be shut down because of M-68 when equipment already installed broke down, pointing out that Exception 1 in Paragraph (c) of the order specifically stated that material for maintenance, repair and operating supplies could be purchased and delivered on any well, regardless of the size of the tract on which it is located. The spacing provision places no restriction on materials, with respect to repair and maintenance supplies.

However, repair and maintenance supplies applies only to equipment already installed, Hughes thought, explaining that, for example, wells which required new equipment during workover operations would not come under the repair and maintenance provisions. This was interpreted to mean that the installation of any new auxiliary equipment or additions to materials already in operation would have to apply for preference ratings. The same situation would apply to cases where wells sanded up after their original completion, and it became necessary to set screen and liner to keep the well on production.

OPC Creates Special Petroleum Materials Division

OPC assistance to operators in the securing of materials under the difficult conditions which will prevail when the priorities program is in full effect will be provided through a materials division set up January 7 at the recommendation of Deputy Coordinator Davies. William F. Huff, of Glendale, Cal., formerly manager of tubular sales for Petroleum Equipment Company, was named as director of the division.

"The increasing importance and volume of work concerned with preference ratings and allocations of oil-industry materials make it desriable to establish a specialized functional unit to aid this office in fulfilling its responsibility for assisting the petroleum industry to obtain essential materials," Davies said in his recommendation to Ickes.

"In performing this service for the industry, the materials division will also, in effect, serve OPM as an industrial branch specializing in the field of petroleum," he pointed out.

A major function of the division, it was explained, will be to plan the most effective use of material, equipment and supplies required by the industry, on the basis of appraisals of necessity and urgency made by the production, refining, transportation and marketing divisions.

"This will involve encouragement of oil industry cooperation in effective utilization, curtailment and substitutions of materials; advising of the industry regarding the information required and the procedures to be followed in applying for preference ratings and securing essential materials; and maintenance of current knowledge of the stocks of materials and equipment held by supply houses and oil companies and advise and assist in maximum utilization," it was stated.

Among the services to be performed by the division will be to obtain preference ratings and allocations in "appropriate relation to competitive demands" and expedite deliveries consistent with the ratings; administer, so far as OPC authority extends, all industry priority orders which are not directly related to operating projects; administer reviews and recommendations on PD-1 requests in consultation with other divisions; handle routine control and follow-up of applications for certificates of necessity, and develop information and statistics on the critical material requirements of all branches of the industry.

Under this program, OPC will practically have control of the issuance of priorities to the industry, and will assign the priorities rating to be given each application, although technically its action will be called "recommendations" to the OPM.

Davies explained that the OPM is seeking to shortcut the difficulties of the situation as much as possible and has entrusted the OPC with the task of passing on materials applications. The new set-up will shorten the time required for action on applications by eliminating the necessity for OPM review of request after they have been studied by the coordinator's office.

Washington Roundup

Huge war production program to increase military and industrial demands for oil . . . States asked to increase output of fields yielding aviation gasoline crudes . . . Industry Council criticizes OPC failure to confide

By B. F. LINZ, Washington Correspondent

PRESIDENT ROOSEVELT'S disclosure last week of his $59,000,000,000 war program, involving the production of heretofore undreamed of numbers of tanks, planes and ships, brought home to the oil industry as nothing else could a sense of the responsibility which will be placed upon it to keep those tanks, planes and ships in operation.

No estimates have yet been made of the quantities of gasoline probably needed, but OPC immediately lifted its sights to production targets far higher than any yet aimed at. A daily crude production of 5,000,000 barrels or more and expansion of the aviation gasoline program far beyond its present 150,000 barrel expansion are in the immediate offing.

To meet the tremendous outlay projected by the President, $9,000,000 in new taxes and increases in the social security levies will be necessary. First inklings of what the treasury will propose in the way of new taxes will probably come within a week, but it is considered very likely that one of the points to be attacked for new revenue will be the depletion provisions of the present law.

The first scheduled meeting of the Petroleum Industry Council indicated that relations between that group and the OPC have been strained by the latter's failure to take the council into its confidence regarding projected moves. Indications, however, are that this situation will be ironed out satisfactorily and without delay.

The OPC will be the contact between the industry and the OPM in the handling of priorities applications for materials, through a materials division set up last week. Acting as an industrial branch of the OPM, the division will study applications for materials, assign ratings and see that applications are dealt with promptly.

Although plans for the development of a 150,000 barrel daily capacity for aviation gasoline will be inadequate, OPC forged ahead with that program during the week, asking producing states to emphasize production of aviation grade crudes, even at the expense of output of other grades, and preparing three forms of contracts for refiners, which will give them a choice of the way in which they will deal with the government.

Military Needs

President Roosevelt's disclosure of his war program, envisioning the production of 60,000 planes, 45,000 tanks and 8,000,000 tons of ships this year and 125,000 planes, 75,000 tanks and 10,000,000 tons of ships in 1943, served to center attention upon the burden the oil industry will be called upon to bear in producing the fuel oil, gasoline and lubricating oil necessary for their operation.

No estimates have yet been made of the volume of production the industry will have to achieve to fill all military demand and at the same time meet essential civilian needs, nor has it yet been determined definitely how far crude production can be increased without seriously threatening the life of reserves, but Representative William P. Cole, Jr. (Dem. Md.), chairman of the House Interstate and Foreign Committee's Oil Subcommittee, has estimated that production, now running around 4,100,000 barrels a day, will have to be increased to a minimum of 5,000,000 barrels daily.

And Petroleum Coordinator Ickes, engaged in intensive studies of potential output, believes 5,000,000 barrels a day is about the outside figure than can be reached and, he said on January 8, "whether we can go that far without running into danger, I do not know."

Meanwhile, others while admitting that military needs are to grow enormously as a result of the big war production program, foresee materially reduced total consumption due to lessened civilian motorist demand as a result of the automobile and tire rationing program. Some predict this will more than offset the increase in military usage.

The President's call for more planes and yet more planes, also has raised the sights of the OPC with respect to its aviation gasoline program. Aimed to achieve a daily production of 150,000 barrels by the end of this year—it has already jumped output from 40,000 to 52,000 barrels—the sights will have to be raised to meet the new responsibilities. Army and navy experts now are making studies of the probable needs, and are to submit their figures to the coordinator as soon as possible.

The new situation may bring action on the informal suggestion by Ickes that the OPM permit the payment of a premium on lead from marginal mines to secure increased production of that commodity, now used to bring 96-octane gasoline up to the 100-octane level.

The new ships that are due to roll off the ways in ever-increasing numbers will call for a huge volume of fuel oil, and it is probable that large quantities will have to be brought in from the Caribbean area to supplement the domestic production east of California.

The lubricating oil problem is less serious, since the volume of lubricants required will be small

in comparison with the volumes of fuel oil and gasoline.

A further load will be imposed upon the industry in the production of synthetic rubber. The coordinator, however, sees no difficulty in supplying the oil needed for the comparatively small tonnage of rubber now programmed, although the crudes required contain the constituents which go into 100-octane gasoline. To produce synthetic rubber to the extent of one-half the 1941 rubber consumption of 800,000 tons would require 200,000 barrels of crude daily, OPC experts estimate. The present program, however, calls for the production of only 40,000 to 50,000 tons.

The military needs for oil are seen as materially reducing the volume of gasoline to be available for civilian consumption, but Coordinator Ickes does not at the moment anticipate that consumer rationing will be necessary.

"Gasoline rationing will take care of itself automatically as a result of the rubber shortage," he explained. "I do not foresee, in the immediate future at any rate, any necessity for rationing."

The military importance of oil and the possibility of enemy air raid, which last month influenced California interests to ask the army to protect their fields, has led to conferences between army, navy and OPC officials with a view to working out plans for safeguarding California fields. The army originally held that such protection was the responsibility of the civil authorities, but there is a possibility of joint army-navy action.

Production Switch

Authorities of all the producing states were asked January 6 to increase production from fields which yield crude oils needed for aviation gasoline, curtailing output of lower-grade crudes if necessary to keep total production within the limits of OPC state allocations.

OPC recommendation, transmitted by Deputy Coordinator Ralph K. Davies to the governors and regulatory agencies of the producing states and to the industry committee on production for the Pacific Coast, where much high-grade crude is obtained, stressed the necessity for delivering all requirements of aviation-grade crudes.

It was urged that, within the quotas recommended each month for each state, the allowable production of fields and pools be so fixed as to

"(a) Provide aviation-grade crude petroleum to the full extent that such petroleum can be utilized for the production of aviation gasoline to refineries that are actually utilizing their aviation-gasoline-refining facilities and their current supplies of aviation-grade crude petroleum principally for the production of aviation-grade gasoline for military purposes.

"(b) Provide increased allowables to the extent that the production can be utilized by additional aviation-gasoline refinery capacity as it becomes available, to those fields capable of supplying such additional refinery capacity with aviation-grade crude petroleum.

"(c) Encourage the efficient recovery of additional quantities of aviation-grade gasoline components from natural-gas, condensate and oil fields of each state."

"It is essential, in the national interest, that the supplies of all grades of aviation gasoline for military, defense and essential civilian uses be increased immediately to the maximum," it was declared.

"A vast program of expansion of the facilities for manufacturing aviation grades of gasoline has been undertaken jointly by various agencies of the government, together with the oil industry.

"To secure the successful accomplishment of this program, it is necessary that there be ready and adequate supplies of aviation-grade crude petroleum and aviation-gasoline components from the natural gas and condensate and oil fields of each state to fill the demand of existing facilities and of additional facilities as they become available."

Council Meeting

First scheduled meeting of the Petroleum Industry Council brought to the attention of OPC officials sharp criticism of their failure to take the industry organization into their confidence with respect to matters under consideration.

Target of the complaint was the OPC's action on M-68, regarding which the council was not consulted, and it was strongly urged that the coordinator give the group closer contact with OPC projects.

Later, it was explained by Ickes that while the council is entirely free to consider any matters it deems important as well as subjects referred to it by the OPC, and while efforts are made to keep it advised of what is going on, there are occasionally matters demanding quick decisions which do not permit time for such action.

In its two-day meeting, January 6 and 7, the council thoroughly canvassed a number of problems, including those of synthetic rubber, tetraethyl lead and the maintenance of adequate technical staffs by the industry under war conditions.

Detailed information on rubber stocks, potential supplies, probable needs and costs and methods of producing synthetic rubber was given the council by Deputy Coordinator Davies and Wright W. Gary, OPC director of refining and a resolution was adopted calling upon all branches of the industry to save scrap iron, steel and rubber for re-use.

Another matter given consideration was the problem of protecting stripper wells, and a committee of nine was set up to study methods of increasing the reserves of oil and preventing premature abandonment of smaller wells.

A resolution was adopted urging the Interstate Oil Compact Commission to set up machinery to deal with problems raised by the national defense effort, in cooperation with OPC.

The discussion of the rubber situation was highly significant in view of the important part which the industry will be called upon to play in the production of synthetic rubber to take the place of the natural product, supplies of which have been cut off by the war in the Pacific (see Military Needs).

The council membership canvassed the situation as thoroughly as possible, and paved the way for a further conference of experts who will meet in Washington January 13.

Fuel Prices Curbed

Applications of several large companies for permission to increase prices of Grade C bunker fuel oil at East Coast and Gulf locations were turned down January 9 by Price Administrator Leon Henderson.

The companies proposed to raise their prices at New York from $1.35 to $1.50 per barrel, with corresponding advances at other points on the Atlantic Coast and an increase on the Gulf.

Henderson made no formal explanation of his refusal to grant the

requests, but said the OPA decision was based on a consideration of "all pertinent factors," including current charter rates, actual costs of operating company tankers, the fuel oil supply position, the defense operations in which it is required and the general economic position of refiners and marketers in the areas which would be affected.

Equipment Exports

Rigid control of exports of oil field equipment and other machinery will be put into effect by the Office of Export Control on January 20 in a move to tighten up the restrictions on exports so as to prevent any merchandise of any type from reaching Axis or Axis controlled countries.

Effective on that date, it was learned last week, general licenses for shipment will be limited to Canada, Great Britain and northern Ireland, Newfoundland, Iceland and the Philippines.

For all other countries, specific licenses will have to be procured for each shipment. Countries to which shipments may be permitted under such licenses will include the Latin-American Republics, Curacao, including the island of Aruba and other islands, Surinam, Greenland, the Netherlands Indies, China and possibly some of the French possessions. Whether licenses will be issued for exports to countries outside the Western Hemisphere will depend, of course, upon war conditions.

The export licensing system is entirely apart from the priority system effective on domestic operations but does not over-rule the latter. In other words, if there are no restrictions on the production and distribution of a product in this country, the Office of Export Control will consider applications for license as submitted, but if priority ratings are required for domestic production, those requirements must be met in submitting applications for shipments abroad.

Transportation

Organization of the Office of Defense Transportation, of which Interstate Commerce Commission Chairman Joseph B. Eastman was appointed coordinator last month, was completed last week with the setting up of a number of divisions ordered by Eastman to "gear the nation's transportation facilities to the new war effort."

Fayette B. Dow was named assistant on pipe lines, tankers, tank cars and tank trucks and will have general jurisdiction over matters relating to the transportation of oil.

Natural Gas and Gasoline

D. E. Buchanan, Tulsa, president of Hanlon-Buchanan, Inc., and for the past 15 years a director of the American Petroleum Institute, was named by the OPC January 8 to head the Natural Gas and Natural Gasoline Section in the District 3 office, at Houston.

The Houston office was selected as the headquarters for the section because the district embraces almost 90 percent of the country's cycling plants and is the major producer of the butanes, isobutanes and isopentanes used for manufacture of 100-octane aviation gasoline.

Over the week-end, OPC announced that a Natural Gas and Natural Gasoline Section had been set up for District 1, with Frank M. Brewster, Bradford, Pa., as chief, and Virgil F. Bowyer, Pittsburgh, as assistant.

The section was set up in this district, it was explained, "to maintain and augment supplies of essential fuel necessary to keep defense industries of the Appalachian area running at full capacity," and its work will be directed particularly to the Pittsburgh-Cleveland-Youngstown industrial region, which consumes about 40 percent of the natural gas produced.

Brewster will serve on leave of absence from his position as president and general manager of the Belmont-Quadrangle Drilling Corporation and as president of Otis-Eastern Service, Inc. Bowyer has been head of the land department of Peoples Natural Gas Company.

Committees

Personnel of the natural-gas and natural gasoline committees for the five districts was announced last week by OPC, as follows:

District No. 1: J. French Robinson, East Ohio Gas Company, Cleveland, chairman; Loring L. Tonkin, Hope Natural Gas Company, Clarksburg, W. Va.; G. E. Walker, United Natural Gas Company, Oil City, Pa.; H. A. Wallace, Jr., United Fuel Gas Company, Charleston, W. Va.; H. D. Freeland, Waynesburg, Pa.; Samuel Brendel, Brendel Producing Company, Pittsburgh; Sam S. Keenan, Carnegie Natural Gas Company, Pittsburgh; S. P. Hartson, Equitable Gas Company, Pittsburgh; Thomas H. Kerr, Ohio Fuel Gas Company, Columbus, Ohio; R. N. Parks, Virginian Gasoline & Oil Company, Charleston, W. Va.

District No. 2: Burt R. Bay, Northern Natural Gas Company, Omaha, chairman; A. W. Ambrose, Cities Service Gas Company, Bartlesville; Frank B. Long, Oklahoma Natural Gas Company, Tulsa; E. V. Kesinger, Natural Gas Pipeline Company of America, Chicago; W. C. Taggart, Taggart Bros., Inc., Big Rapids, Mich.; C. S. Sanders, Stanolind Oil & Gas Company, Tulsa; Edward Buddrus, Phillips Petroleum Company, Bartlesville; Joseph A. La Fortune, Warren Petroleum Corporation, Tulsa; M. M. Stalcup, Skelly Oil Company, Tulsa; T. J. Strickler, Kansas City Gas Company, Kansas City, Mo.

District No. 3: Neil C. McGowan, United Gas Pipe Line Company, Shreveport, chairman; R. E. Wertz, Amarillo Gas Company, Amarillo; Paul Kayser, El Paso Natural Gas Company, El Paso; C. Pratt Rather, Southern Natural Gas Company, Birmingham; E. F. Schmidt, Lone Star Gas Company, Dallas; Ted Goebbel, Shell Petroleum Corporation, Houston; J. H. Boyle, Hanlon-Buchanan Gasoline Company, Tulsa; Clyde Alexander, Dallas; Lawrence R. Hagy, Amarillo; J. H. Dunn, Shamrock Oil & Gas Corporation, Amarillo.

District No. 4: Robert W. Hendee, Colorado-Interstate Gas Company, Colorado Springs; Cecil W. Smith, Montana-Dakota Utilities Company, Minneapolis; J. H. McIntire, Northern Utilities Company, Casper; F. T. Parks, Public Service Company of Colorado, Denver; R. D. Smith, Glacier Production Company, Butte, Mont.; J. D. Roberts, Mountain Fuel Supply Company, Salt Lake City; E. B. Coolidge, Hard Rock Oil Company, Great Falls, Mont.; J. C. Johnston, Continental Oil Company, Denver; John T. Bishop, Basin, Wyo.

District No. 5: William Noeller, Southern California Gas Company, Los Angeles, chairman; George F. Schroeder, Standard Oil Company of California, San Francisco; E. H. McCollough, Amerada Petroleum Corporation, Los Angeles; A. F. Bridge, Southern Counties Gas Company, Los Angeles; W. G. Vincent, Pacific Gas & Electric Company, San Francisco; H. L. Farrar, Coast Counties Gas Company, San Francisco; R. H. Green, Signal Oil & Gas Company, Los Angeles; H. L. Eggleston, Gilmore

Oil Company, Los Angeles; H. R. Linhoff, Richfield Oil Corporation, Los Angeles; L. V. Cassady, Lomita Gasoline Company, Long Beach, Cal.

The principal duty of the committees will be to cooperate with the natural-gas and natural-gasoline section of OPM in the increased production of materials necessary for 100-octane-aviation fuel which are contained in the two natural products, and in the maintenance of an adequate supply of gas for defense, industrial and civilian consumption.

Model Aviation Contracts

Three forms of model contracts for the construction of new plants for the production of 100-octane-aviation gasoline have been perfected by OPC, to cover the needs, respectively, of companies which will make fuel only for the duration of the war and which are not prepared, themselves, to undertake the financing; those which want to build plants but need government loans for part of the cost; and those which are ready and able to build their own plants.

The terms of the contracts meet the desires of the Army, Navy, Treasury and Reconstruction Finance Corporation, it was explained.

By agreement with the Reconstruction Finance Corporation, all the aviation gasoline produced by the new plants will be purchased by Defense Supply Corporation, an RFC subsidiary, and resold to the armed forces of the United States and Our Allies. The arrangement will not interfere with existing contracts, but no new contracts will be made except when recommended by the Army, Navy and OPC.

"Expansion of our capacity for making 100-octane gasoline means the building of new plants and expansion of present ones," Coordinator Ickes said, in pointing out the importance of these contracts to that end. "The great majority of refiners have manifested sincere desire to help. So, in order to facilitate the participation of all types of refiners, large and small, we have worked out specific proposals in consultation with the companies and various agencies of the government.

"With the assurance of the Supply Priorities and Allocations Board that materials for new 100-octane plants and plant expansions will be given A-1-A priority ratings, we may now look forward to a construction program which will be record-breaking in both speed and proportions."

OPC officials explained that all three types of contract are expected to contain an agreement by the Defense Supplies Corporation to buy the entire output for three years from the time the plants are completed, with options to the corporation for two one-year renewals.

Contracts with refiners who plan to produce only during the war will provide that they shall build the plants at the expense of the Defense Plant Corporation, another RFC subsidiary, and rent the facilities from the government.

The second type of contract—one of which, with Cities Service Company, already has been signed (THE OIL WEEKLY, December 22)—involves what is known as the "escrow plan," under which the refiner will borrow 75 percent of the plant cost and finance the balance himself, producing gasoline at a price which will include 10 percent annual depreciation and 23⅓ annual amortization. The effect will be that, at the end of three years, the price of the product will have included enough to pay the cost of the plant.

Under this plan, however, the refiner will not actually receive the sums allocated for depreciation and amortization, but the 10 percent for annual depreciation will be retained by the Defense Supplies Corporation and credited to the account of the refiner for application against the loan, so that at the end of three years 30 percent of the plant cost will have been credited as partial repayment, and the allocation for amortization will be placed in escrow with RFC and at the end of three years will amount to 70 percent of the original cost of the plant.

If the war is over at the end of three years, the refiner will have the option of deeding the facilities over to the government and claiming all of the amortization reserves which had been set up in escrow, repaying the balance of his loan and keeping the rest, or of keeping the plant, forfeiting all interest in the amortization reserve and paying off the balance of the loan from his own funds. Under the first, if the agreement lasted exactly three years, the Defense Supplies Corporation would be repaid the full amount of its loan and the refiner would get back his full investment; under the second, the effect would be the same as though the refiner had purchased the plant for its depreciated value. This form of contract also includes appropriate features to meet the situation in case it is renewed after its originai period.

The third form of agreement is the execution by the Defense Supplies Corporation of a simple purchase contract. This form, it was said, is preferred by refiners who already are manufacturing 100-octane gasoline. Some of these companies, it was said, have requested a prepayment of a part of the value of the contract, to be credited against goods later delivered, and it is probable this suggestion will be adopted.

It is expected that eventually all the 100-octane produced in the country will be bought by the Defense Supplies Corporation. While no specific action to that end has yet been taken, OPC recommendations prohibit the sale or shipment of such gasoline except in conformity with the coordinator's program.

It was explained that the three types of contract have been prepared in recognition of the fact that a uniform price cannot be established because, in order to get the required volume, it will be necessary to make purchases from high-cost as well as low-cost producers. The Defense Supplies Corporation, it was said, is willing to accept provisions which will protect refiners against increases in cost of production and to buy on a basis of either negotiated prices or cost-plus formulas, but all prices will be subject to approval by the Army, Navy and oil coordinator.

Budget

The Federal gasoline tax, which returned $343,021,269 in the fiscal year 1941, will provide a revenue of $372,500,000 this year and $385,400,000 in the fiscal year which begins July 1, next, according to Treasury estimates transmitted to Congress January 7 by President Roosevelt in his annual budget.

The Treasury estimated also that revenue from the lubricating oils tax, which was $38,220,844 in 1941, will be $44,000,000 this year and $45,000,000 in fiscal 1943, and the tax on pipe-line transportation, returning $12,480,585 in 1941, will amount to $13,900,000 this year and $14,200,000 in the coming year.

The total expenditure for war and operation of the federal establishment during the coming fiscal

[*Continued on page 36*]

RECOMMENDED for Those Who Want the BEST," Says California Driller About His INTERNATIONAL POWER UNITS

INTERNATIONAL POWER UNITS are providing economical, time-saving performance for the Bender Drilling Co., Bakersfield and Long Beach, Calif., as the following letter from Mr. E. A. Bender testifies:

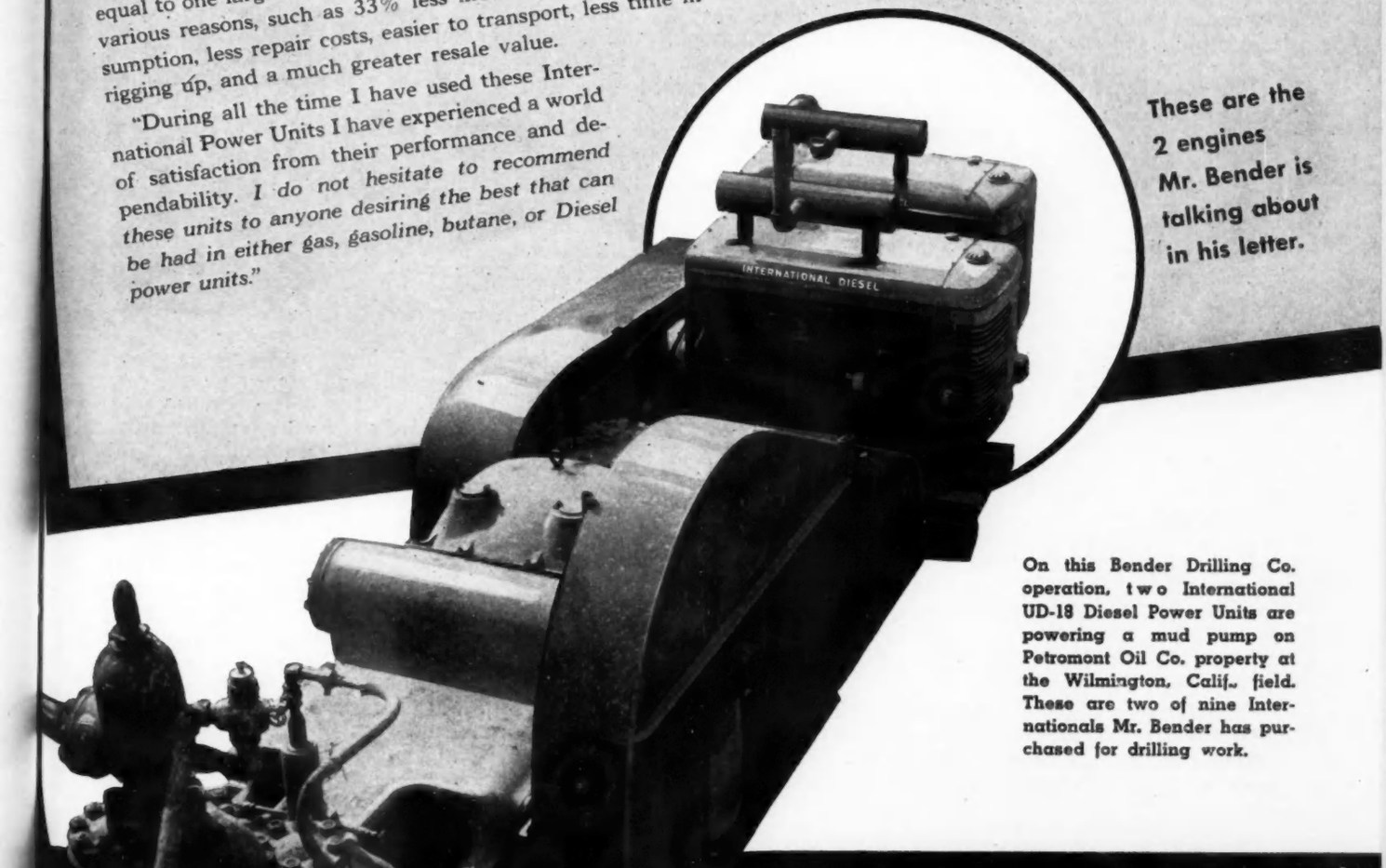
"During the last few years I have purchased several of your International Power Units, both butane and Diesel, for powering drilling rigs and mud pumps.

"I find that two engines, whose combined horsepower is equal to one large engine, is the most economical set-up for various reasons, such as 33% less first cost, less fuel consumption, less repair costs, easier to transport, less time in rigging up, and a much greater resale value.

"During all the time I have used these International Power Units I have experienced a world of satisfaction from their performance and dependability. *I do not hesitate to recommend these units to anyone desiring the best that can be had in either gas, gasoline, butane, or Diesel power units.*"

Mr. Bender's letter sums up the satisfaction oil men all over the country are finding in International Power Units. Ask the nearest International Industrial Power dealer or Company branch about the full line. Sizes up to 110 max. horsepower. And remember, when these engines need servicing, the International Industrial Power dealer is on the job. His service facilities, trained servicemen, and stocks of genuine IHC Parts are at your command . . . backed by 85 Company branches coast to coast.

INTERNATIONAL HARVESTER COMPANY
180 North Michigan Avenue — Chicago, Illinois



These are the 2 engines Mr. Bender is talking about in his letter.

On this Bender Drilling Co. operation, two International UD-18 Diesel Power Units are powering a mud pump on Petromont Oil Co. property at the Wilmington, Calif., field. These are two of nine Internationals Mr. Bender has purchased for drilling work.

INTERNATIONAL Industrial Power

How to Eliminate Week-End Blackout and Comply With 40-Hour Week

NOW that the country is at war, vital industries are faced with the responsibility of changing over to continuous operation after years of using reduced weekly working schedules if the program of doubled and quadrupled production of military and allied machinery is to be achieved. And in view of the continued enforcement of the 40-hour work week law, it is necessary to perfect a formula that will provide means of increasing the maximum work week to seven 24-hour days while still complying with the wage-hour act.

This is not as simple as it may sound. Therefore, of interest is the formula perfected by one concern that meets all requirements. A number of oil industry firms, especially drilling contractors, pipe-line organizations and supply companies, will find it applicable to conditions they face.

Back in August of 1939, The Timken Roller Bearing Company foresaw that it would be required to furnish large amounts of steel, tubing and bearings as the national defense program gained headway. Steps were taken at that time —20 months ago—to inaugurate a system that would enable the company to keep its equipment running 168 hours a week (24 hours a day for 7 days), and thus eliminate the week-end blackouts while still complying with the 40-hour work week. Keeping step with the expansion of defense needs during this 20-month period, one department after another has been on this schedule.

In brief, this "anti-blackout work schedule" calls for three 8-hour working shifts per day up to 40 hours per week. But by using four crews instead of three to handle these three shifts, it is possible to rotate the working time for each crew so that it works 40 hours a week. Thus the four crews keeping the equipment running 160 hours a week.

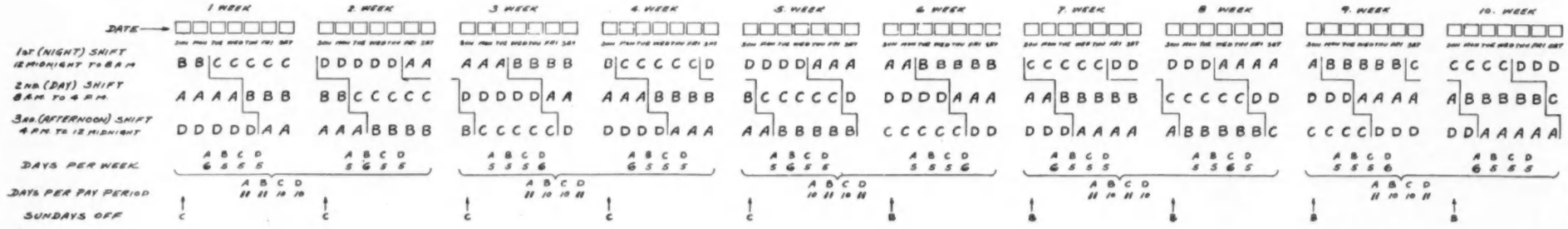
By an ingenious scheduling arrangement of shifts and crews, each crew works five extra shifts over each period of 20 weeks (for which overtime is paid). These five extra shifts for each of the four crews are all that is necessary to bring the "production work-week" up to the desired 168-hour weekly total.

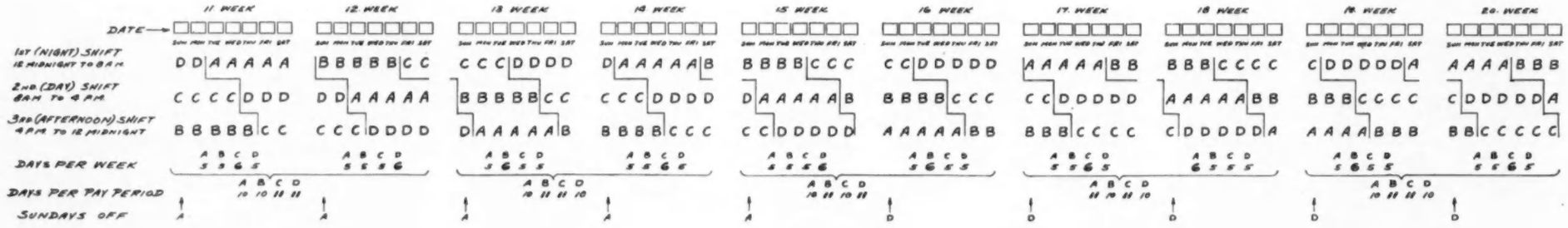
The schedule has several noteworthy features. It has been so carefully worked out that every man works five days in a row and then is off at least 48 hours, after which he changes shifts. And over each period of 20 weeks, each man has five Sundays off. The shift schedule runs 20 weeks and then repeats without change.

On the opposite page is reproduced a copy of the schedule chart, which shows in detail exactly how the plan works. The three shifts are listed in the left hand column, and the four crews are designated by the letters A, B, C and D. If John Doe is a member of Crew A, the hours designated by the letter A on the chart show exactly the hours and shifts he will work during the entire 20-week period.

The Timken company has received thousands of requests for details of the plan. Currently interest in it is further enhanced by Time Magazine's mention of it in the December 22 issue, explanation of it by a nationally-known radio newscaster, and syndicated comments over the wire services.

It is with the thought that the explanatory diagram on the opposite page may be of interest to the oil industry, which in many instances is faced with continuous 24-hour-a-day 7-day-a-week operating conditions, that it is reproduced here with the permission of The Timken Roller Bearing Company.





SHIFT SCHEDULE

FIVE CONSECUTIVE WORKING DAYS, FOLLOWED BY AT LEAST 48 HOURS OFF
SHIFT SCHEDULE RUNS 20 WEEKS AND REPEATS WITHOUT CHANGE

CREW A	CREW B	CREW C	CREW D
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
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43	43	43	43
44	44	44	44

You will note that the three *shifts* are listed in the left hand column; and that the four *crews* are designated by the letters A, B, C and D. If John Doe is a member of Crew A, the hours designated by the letter A on this chart show exactly the hours and shifts he will work during the entire 20-week period.

Every man works five days in a row and then is off at least 48 hours, after which he changes shift.

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Recent Developments and Successes in Geodynamic Prospecting

By SYLVAIN J. PIRSON
Petroleum Geologist, Geophysicist, and Engineer, State College, Pennsylvania

THE geodynamic prospecting process was introduced to the industry only 10 months ago. Since that time, 7 wildcat and semi-wildcat wells have been drilled as a result of surveys made or near the regions surveyed by gas leakage measurements. Out of these, 3 are commercial producers of both oil and natural gas. Another well discovered an accumulation of 10,000 barrels to the acre, though apparently not recoverable economically, and one failed to turn out according to predictions due to misinterpretation of data at hand. All tests drilled were located in Northern Pennsylvania where oil often is found in shore-line sand bars, lenses, pinch-outs or stratigraphic traps. The other two wells proved to be dry holes as predicted.

Basic Principle

The existence of commercial oil and gas accumulations is predicated upon certain geological requirements, the mathematician would call them "necessary conditions" which must be satisfied before a pool becomes possible at all. They are as follows:

1. There must be a source bed in the neighborhood of the area under study. It is not known how far the source bed may be removed horizontally and vertically from the area under consideration, but it is generally assumed that migration of oil and gas may take place in the subsurface over reasonable distances and in every direction.

2. There must be a trap in the form of a porous and permeable geologic structure into which the oil and gas may migrate and accumulate. Many types of such traps have been recognized and may be classified into two main classes, namely structural and stratigraphic. A structural trap is created when the geological horizons are deformed by mountain building forces (orogenic pressure) resulting in folds, faults, etc. A stratigraphic trap is that which results from changes in the sedimentation process creating shore-line sand bars, pinch-outs, erosion or truncation of a porous and permeable reservoir, etc.

3. There must be a "semi-impervious" cover that prevents the excessive escape or leakage of the hydrocarbons into the atmosphere. The cover is called "semi-impervious" because there are no sedimentary formations which are perfectly impermeable. The fact that the cover above oil fields is an imperfect seal has led to the discovery of most petroleum provinces in the early days of the industry when the presence of oil and gas seeps, mud volcanoes, sour dirt, asphalt beds, etc., was sufficient justification for the drilling of a wildcat well.

The fact that the above conditions are generally recognized as "necessary" for the opening of an oil and gas province and the associated pools does not make them "sufficient," when fulfilled, for guaranteeing the existence of oil and gas in commercial quantities underground. Even when the improved prospecting methods of geology and geophysics are used in combination, successes in wildcat drilling do not exceed 25 percent. On the basis of the statistics of wildcat drilling compiled by F. H. Lahee[1] and collaborators, the resolving power of the prospecting tools used in discovering oil and gas fields is as shown in Table 1.

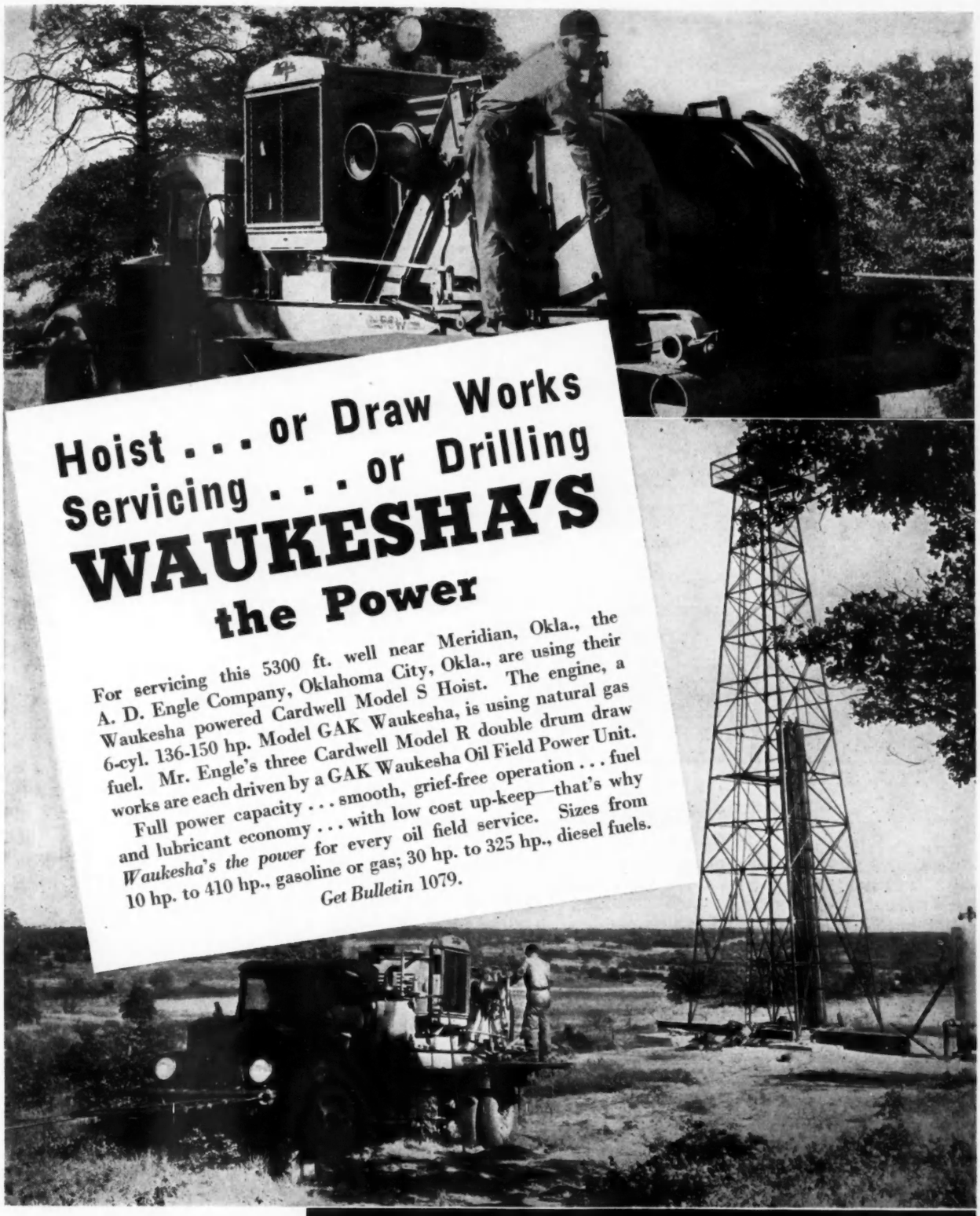
TABLE 1
Resolving Power of Oil and Gas Prospecting Tools
Average for 1937, 1938, 1939, 1940

Prospecting Tool	Total Producers	Total Dry Holes	Resolving Power
Geology	641	4112	.1345 or $\frac{1}{7.45}$
Geophysics	329	1338	.1975 or $\frac{1}{5.07}$
Geology and Geophysics	81	256	.2400 or $\frac{1}{4.17}$
Random Drilling	139	2276	.0575 or $\frac{1}{17.4}$

It is seen, therefore, that the prospecting technique for oil and gas is susceptible of improvements in view of eliminating dry-hole drilling particularly in wildcat lands.

The main reason for the failure of the mentioned prospecting tools to score a better average in their predictions resides in the fact that these methods are indirect, or determine the likely locations for test wells by means of the measurements of relationship indirectly associated with the accumulation of oil and gas in commercial quantities; namely, structural features through surface and subsurface geology, or through seismographic work; body density distribution through gravimetric and magnetic work; sedimentary depositional trends through the study of lithology, microfossils, heavy minerals, etc. These methods do not indicate that oil is actually present through manifestations directly associated with oil and gas.

Only recently have oil and gas prospectors realized that oil fields may not only be indicated by visible seepages or "microseepages" of hydrocarbons but also by minute seepages or "microleakages" of gases through apparently solid ground. This led at first to an investigation of the gas content of soil-air with only apparent success, the failures being due likely to the difficulties of securing a representative sample of soil-air which is unaffected by soil composition, seasonal and daily variations, and



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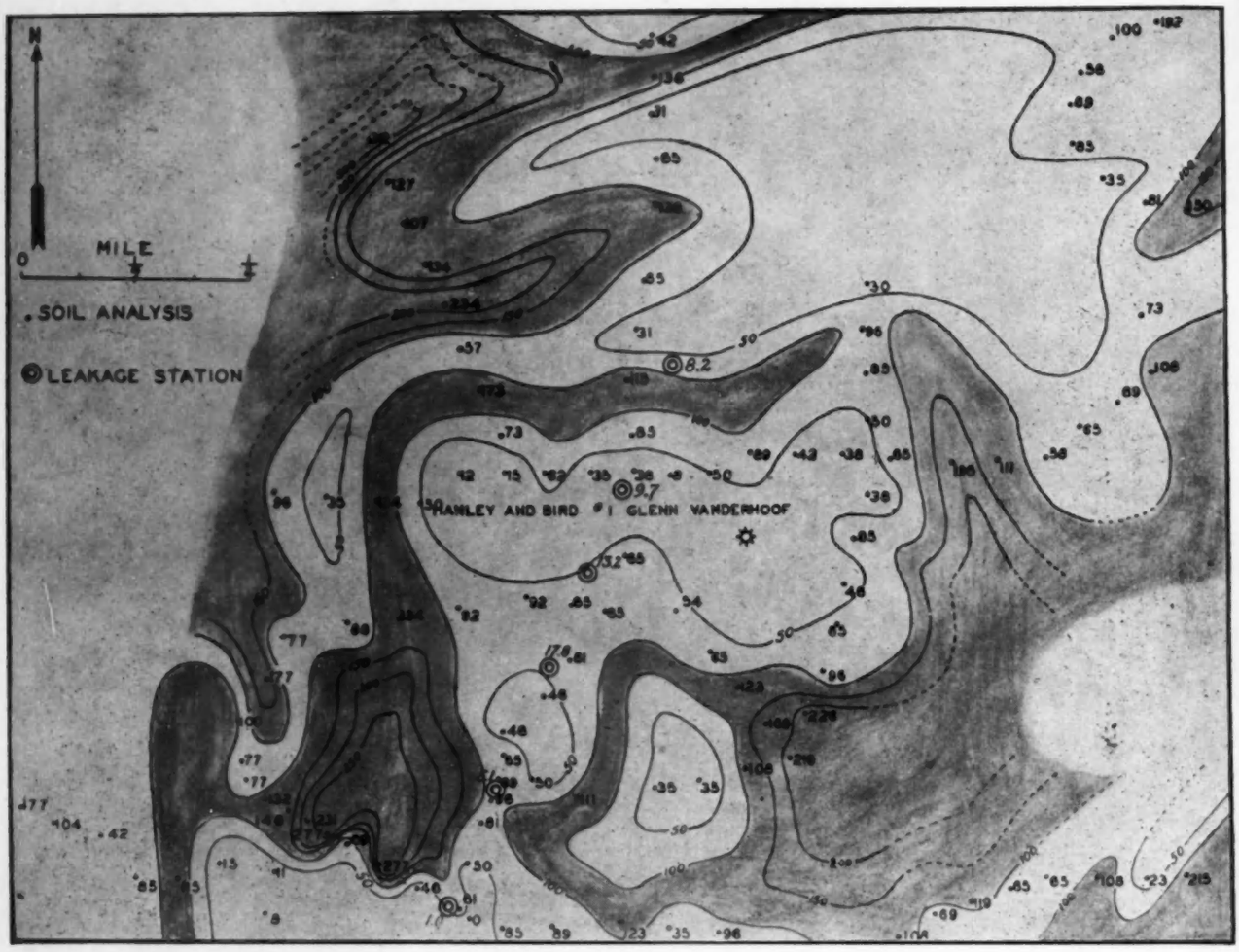

FIGURE 1-A
Soil-analysis halo discovery checked by gas leakage measurements in the State of New York, Steuben County, Hartsville and Canisteo Twps.

other causes of error. The second step was the realization that if gases leak out from the underground accumulation, a certain amount of this gas should be retained by the soil particles, an amount which necessarily must be in equilibrium with soil air concentrations. A great deal of information is presently available by way of published results and theoretical discussions on "soil-analysis" prospecting but, so far, no statistics as to the resolving power of this new tool are available. The general contention in the industry apparently is that it is low. In the writer's experience and research on soil-analysis methods, the low resolving power may be due to several factors:

1. The soil sample concentrations in hydrocarbons are more influenced by soil adsorption characteristics than by the magnitude of the gas leakage. The leakage value could be obtained from the analysis of a soil sample if one knew the adsorption equilibrium constant of the particular soil, said constant being a function of the soil composition which is infinitely variable and difficult to measure.

2. The pattern distribution of hydrocarbon concentrations in the soil over an oil and gas field (the so-called "halo") is a manifestation of the change in the soil adsorption properties brought about by ionic leakage from the oil-field waters.

3. The "soil halo pattern" seems to be generally present on the edge of oil and gas fields but the reverse proposition that a "soil hydrocarbon halo" necessarily indicates an oil pool is untrue. Many seemingly good "haloes" have been drilled and only a small percentage of the "haloes" have resulted in oil discoveries. Statistics on this point are not yet available but, thus far, few commercial accumulations of oil and gas seem to have been discovered by the application of the "halo" principle alone without confirmation by other geological or geophysical tools.

4. The soil hydrocarbon distributions may not be correlated to the depth of the source, therefore, they are incapable of distinguishing between the effect of a deep and shallow source.

5. The soil hydrocarbon patterns are permanent in the soil, particularly for the hydrocarbons which are the result of synthesis in the soil, supposedly by catalytic polymerization, photosynthesis, or bacterial action. They are, therefore, static in nature and do not disappear when the field is depleted.

The writer has sought for several years to apply the measurement of a new parameter to the discovery of subterraneous accumulations of oil and gas: i.e., the time-rate of hydrocarbon leakage through a selected portion of the earth surface. This phenomenon is essentially dynamic in nature as it measures the volumetric rate of flow of gases

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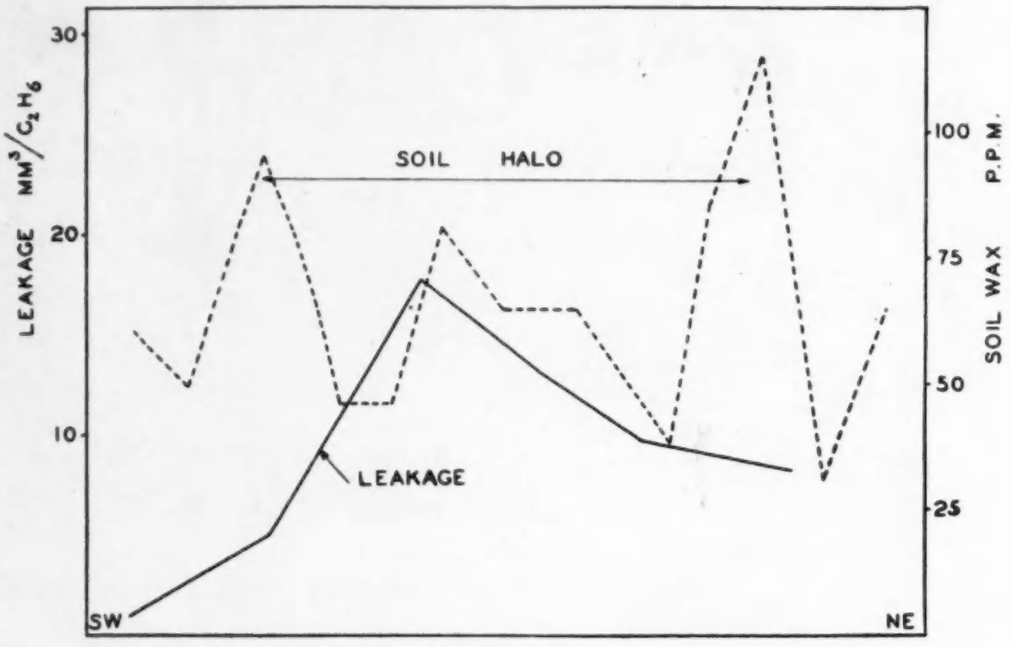

FIGURE 1-B

N-E to S-W cross section comparing geodynamic gas leakage measurements with soil analysis results.

escaping from the underground reservoir.

The process of gas leakage toward the surface of the ground finds an explanation in the kinetic theory of gases. In a dry or partly water-saturated horizon, the physical principles involved are those of permeation, diffusion, and effusion.

Permeation of a gas through a porous medium is represented by Darcy's law which indicates that the mass rate of flow of a fluid (liquid or gas) through a porous and permeable medium is proportional to the pressure gradient. In the case at hand the pressure gradient is the difference of pressure between the source of leakage (or underground accumulation of hydrocarbons) and the atmosphere divided by the length of the leakage path. As a result of several leakage measurements already made over known fields in many parts of the United States it appears that the overall permeability of sedimentary rocks covering oil fields (including the cap-rock) is of the order of 10^{-10} Darcy. Permeation takes place primarily in porous rocks where the average capillary size is large compared with the mean free path of the gas molecules. A state of viscous flow in the channels occurs under such conditions.

If the mean free path of the leaking gas is of the same order of magnitude as the capillary openings, then it is said that the flow of gas takes place by diffusion, a phenomenon represented by Fick's law which is very similar to Darcy's law. Therefore, the relative leakage distribution as given by Darcy's law will be identical to that given by Fick's law.

If the mean free path of the leaking gas is larger than the order of magnitude of the capillary openings, then it is said that the flow of gas takes place by effusion. Presently it is not known how much this type of leakage affects the rate of flow obtained through permeation and diffusion. Due to the nature of the effusion phenomenon it is reasonable to assume that the leakage resulting from this factor is but a small fraction of the total leakage measured, probably of the order of magnitude of experimental errors, which are, by present methods, of the order of 1.5 mm.³ of C_2H_6 per 24 hours.

Leakage Distribution

According to the theory, already verified by a number of field measurements and substantiated by the drilling of several successful wells, the maximum rate of leakage occurs above the accumulation and not in a ring-like fashion around it, with the reservation that if gravity segregation of the reservoir fluid exists or if one deals with a salt-dome free of cap-rock accumulation, then an aureole of high leakage values will be obtained over the accumulation. This must not be construed as a denial of the existence of the so-called "halo" of soil-analysis prospecting methods. The writer has observed such a halo in known oil and gas fields when experimenting with soil-analysis and he has found evidences that it is due to changed conditions of the soil by vertical migration of oil-field waters. The ions of oil-field waters would become adsorbed by the soil's clay particles which would, in turn, change the adsorptive and catalytic properties of clay for leaking hydrocarbon gases, generally increasing the degree of retentivity of clays and soils. Although such modified soils (which are necessarily distributed in a halo fashion around and on the edge of oil fields, since they are related to the edge-water-oil contact), are subjected to a gas leakage of less intensity than in the center of the oil and gas accumulation, they retain more gas, or polymerize more gas into heavy hydrocarbons and "soil - waxes," than soils centrally located and which are subjected to a more intense leakage. Therefore, instead of being contradictory, the methods of oil and gas prospecting by "soil analysis" and by rate of leak-

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age measurements are corroborating each other.

The above views have been definitely established by hydrocarbon leakage measurements recently performed over a shallow discovery made by the writer in 1939 through the medium of soil-analysis. The results of the soil-analysis tests have already been reported by the writer[2] in a previous article. Figure 1-A shows distinctly a soil-halo on the basis of which Hanley & Bird's Glenn Vanderhoof 1 was drilled, a summarized log of which is as follows:

Elevation—1264 feet.
Rigging up—September 1, 1939.
Drilling completed—October 23, 1939.
425 feet—Gas in lime (not gauged).
458 feet—500,000 cu. ft. of gas in lime.
596 feet—Gas in lime (not gauged).
995 feet—602,000 cu. ft. of gas in lime.
1037 feet—1,217,000 cu. ft. of gas in lime with four bbls. of gasoline per 24 hrs.
1185 feet—Gas in shells (not gauged).
3744-47 feet—Oriskany sand (water).
Well plugged back to 1116 feet as possible future shallow gas well—open flow gauged then 76,000 cu. ft. and closed-in pressure: 65 psi.

The leakage measurements show very clearly on Figures 1-A and 1-B that the maximum leakage occurs inside the "soil-halo." The shape of the leakage curve, which is rather sharp on the edges of the field, indicates further that the accumulation is shallow, as verified by the drill, and that there is no possibility of deep gas production, since the broad leakage is totally absent, therefore condemning the possibilities of Oriskany gas.

This example demonstrated fully, therefore, that the "soil-analysis-halo" is not a measure of the leakage from an underground accumulation. It must be added that the location of the geodynamic measuring stations, which were made fully independently of the laboratory tests, were not known to the writer when he performed the laboratory measurements and were revealed only after the leakage figures had been reported on to the interested company. The work was therefore of the nature of a "blind survey" test and the probability that the leakage distribution shown on Figure 1-B would be obtained by pure chance is, of course, very small.

Planning a Geodynamic Survey

For greatest economy, a geodynamic survey should be planned by steps.

The first step consists in a preliminary or reconnaissance survey of a property for which the geologic structural and shore line trends should be ascertained. A first line of stations should then be laid out approximately at right angle to this expected trend. Normally, stations should be spaced about 1000 feet apart, which spacing has been found suitable in several surveys. However, for shoestring sands, wedge-edge, sand bars, shore-line deposits or, in other words, for stratigraphic traps in general which are often narrow, it is recommended to use a station spacing of 500 feet. The first line of stations of the preliminary survey should not stop at the boundaries of a property or block of leases to be tested, but should extend by

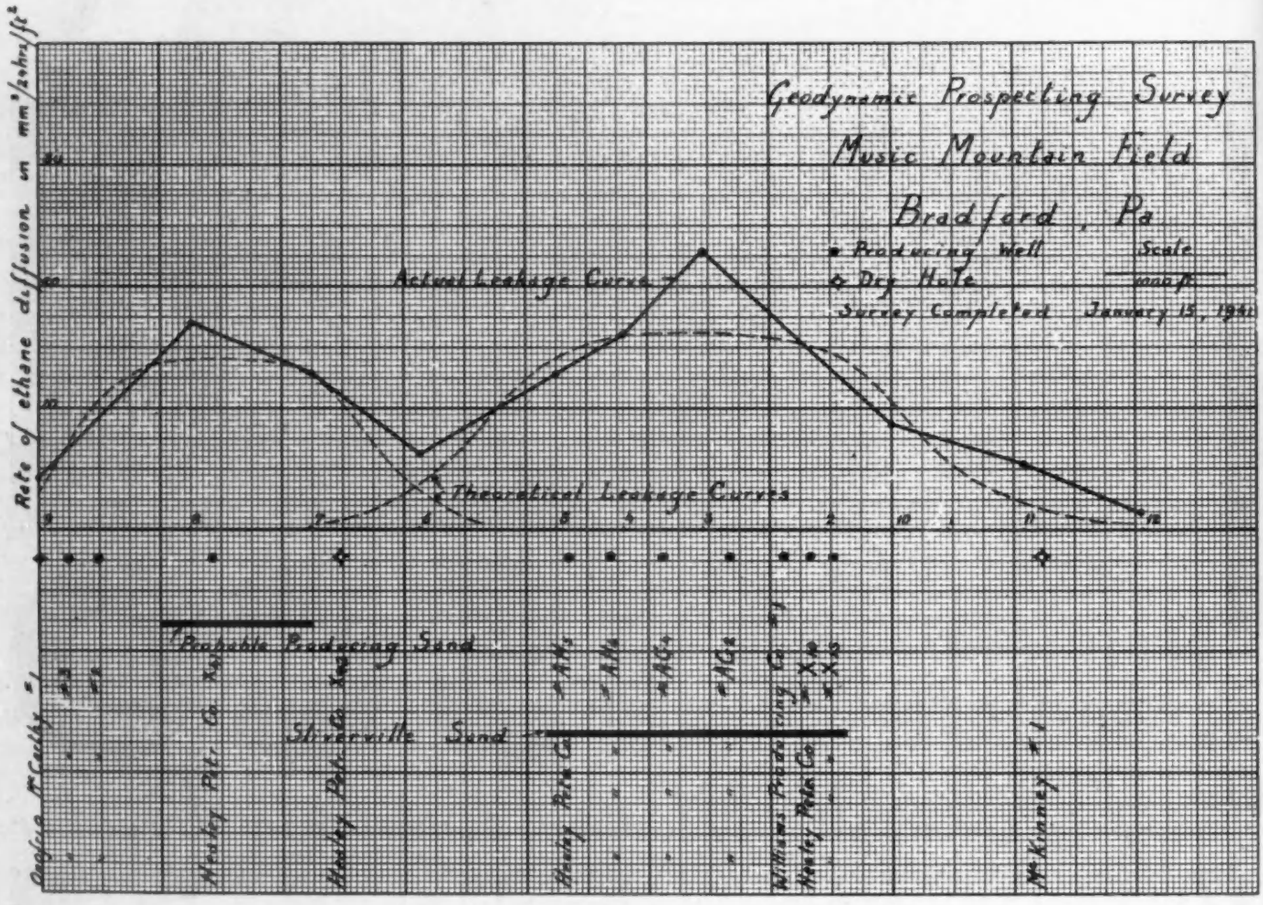

FIGURE 2

Location of first geodynamic discovery (X42) with respect to gas leakage profile as made public four months before well completion.

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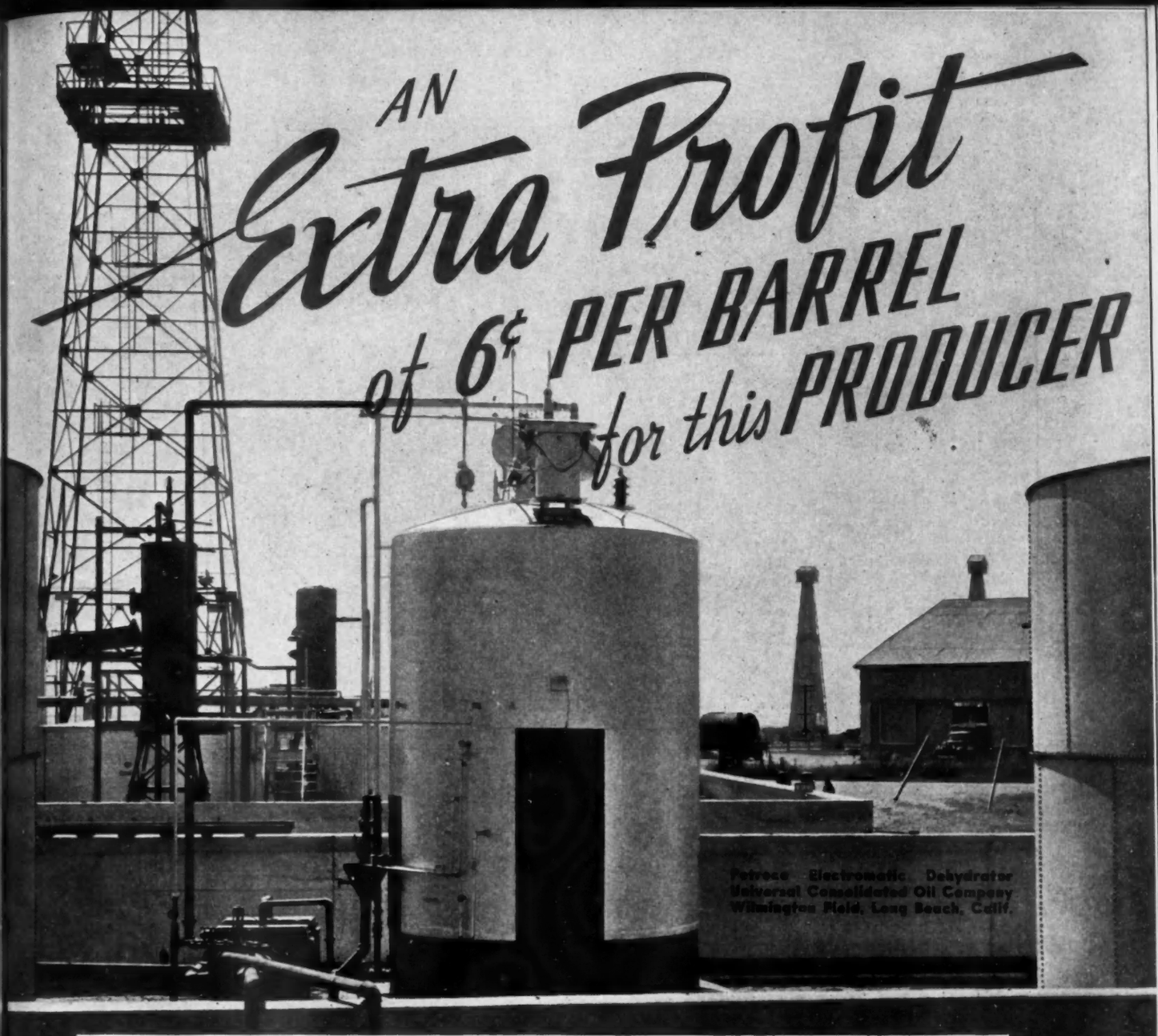

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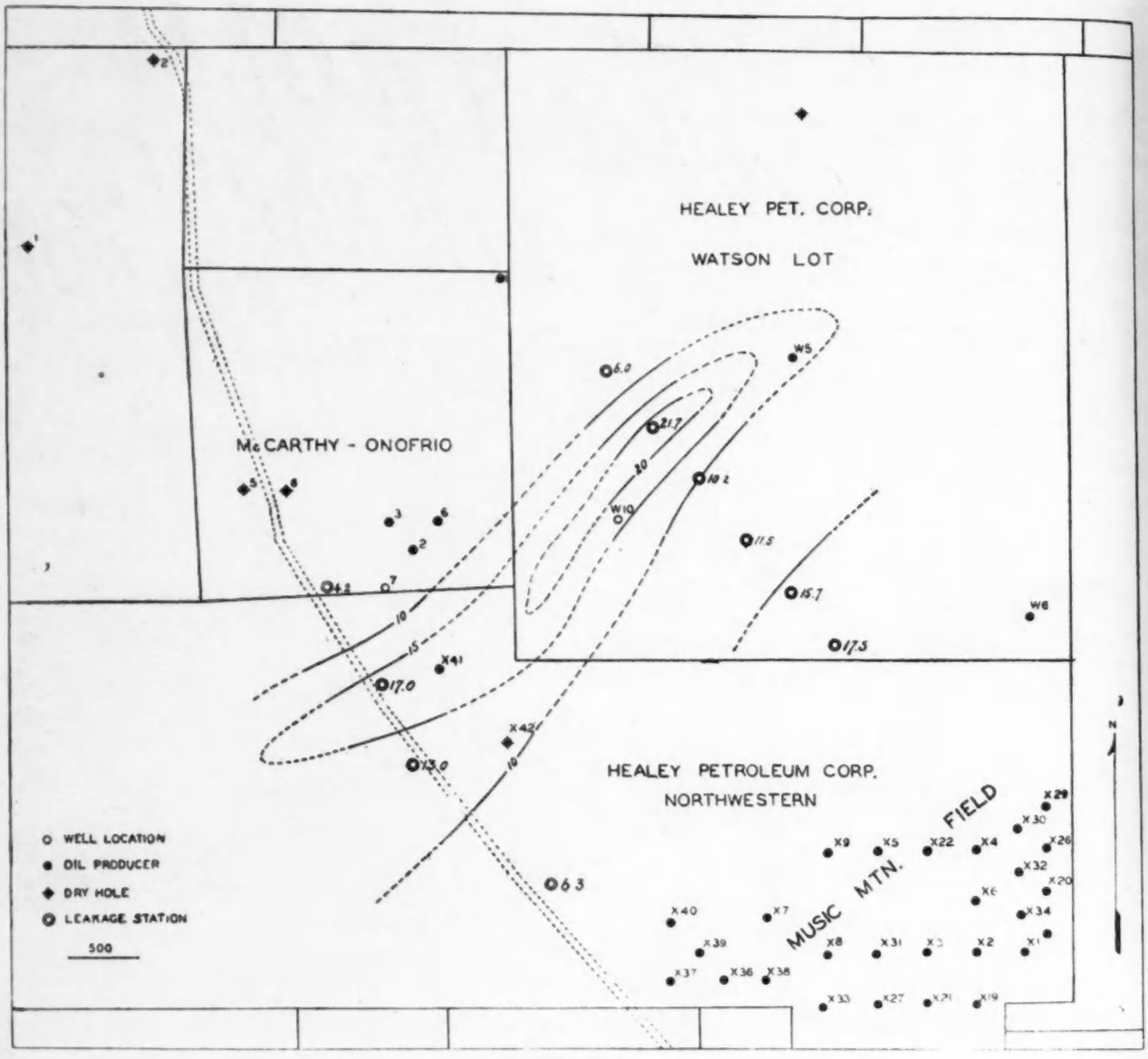

FIGURE 3

Gas leakage distribution over the Silverville sand lens discovered by wildcat X42, located as result of geodynamic prospecting.

one half to a full mile beyond the limits of the land under consideration. This is because gases do not only escape straight-up from the accumulation but also laterally as well, although with decreasing intensity.

The results of the preliminary survey should tell if the area is petroliferous or not within a distance of about a mile on each side of the survey line, at least for deep or moderately deep (3000 feet and more) sands. For shallower sands, the area or belt of influence would be somewhat narrower.

If the area does not show any anomalies of subterranean gas leakage in the preliminary survey, it is without further interest. If, however, the full property or block of leases was not fully covered by the belt of influence extending on each side of the first line of tests, a second preliminary line should be taken at about one to two miles from and parallel to the first preliminary line.

If, on the other hand, a favorable area: i.e., an area showing anomalous leakage, has been discovered during the preliminary survey, the limits of the anomaly should be found by testing parallel lines of stations, located from 1000 to 2000 feet from the preliminary survey.

It may be seen that geodynamic prospecting permits great savings in exploration costs since the discovery of a group of anomalous leakage readings is all that is necessary to suspect the existence of an underground source of pressure. By the other types of geochemical surveys, and more particularly in soil-analysis prospecting, it is necessary that two anomalies: i.e., two regions of high soil hydrocarbon content, be discovered before one is justified to suspect an oil or gas pool. When these two highs have been discovered by soil-analysis, however, there are three possible locations for the suspected pool, as follows: it may either be inside, or outside the "halo" in two more

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places. In order to eliminate this ambiguity, it is necessary, in soil-analysis prospecting, to analyze further lines of soil samples, closely spaced, and thereby establish if a closed "halo" exists. In geodynamic prospecting, only one anomaly is needed in order to indicate the existence of a favorable area, thereby making it possible to concentrate the surveying efforts on a single area instead of three. Yet, the detailed geodynamic exploration may be carried out by means of a station spacing from two to three times greater than in soil-analysis. It is estimated that geodynamic prospecting requires from four to five times less stations per unit area than soil analysis.

Geodynamic Field Work

The field work in geodynamic prospecting is simple and may be carried out by the field geologist, lease man, or other person who may locate stations on a lease map with fair accuracy. The location of the stations may be made by means of a Brunton compass and pacing, or through location of section corners, fence lines, roads, etc. A survey of high precision, such as by means of a plane table, or transit and chain, is unnecessary, but care should be taken to locate the stations on the map within about 100 feet.

The instrumentalities used in the field are equally simple. A preferred practice is to drill bore holes two to three feet deep and about two inches in diameter, into which "piezometers" of simple design for easy handling, are introduced and sealed in the bore-hole for a measured time duration of from 24 to 48 hours. At the expiration of this period, the piezometers are removed and sent to the laboratory for final testing and interpretation.

Recent Successes

Geodynamic prospecting was announced to the industry by means of the presentation of a technical paper at the AIME meeting on February 17, 1941,[3] in which were reported the first results obtained over and in the vicinity of the Music Mountain field, near Bradford, Pennsylvania. They showed a high leakage anomaly over the field and one of a smaller size about 2000 feet north of the main field. The cross section, as originally printed, is here reproduced in Figure 2. The smaller anomaly was interpreted as being due to the presence of another and separate field, although more narrow. Recent drilling over this anomaly by Healey Petroleum Company has proven the exactness of the prediction by the discovery of a new oil-saturated sand lens in the Sliverville sand. The various wells recently drilled over this new discovery are shown in Figure 3. The discovery well (marked X41) was completed July 1, 1941, with the discovery of 4 feet of Sliverville or White sand, saturated with oil and showing gas pressure (unmeasured). The well originally made 4 barrels of oil per day on the beam. A second well (X42) was subsequently drilled and completed on August 13, 1941, with the discovery of but one foot of tight and unsaturated Sliverville sand. The writer had condemned this well before-hand as it was located outside the predicted limits of the sand lens. The well locations X41 and X42 are shown on Figure 2 which clearly indicates their relation to the predicted sand lens. Further geodynamic measurements were subsequently carried out on the Watson Lot (Figure 3) which indicated that the newly discovered sand lens extends northeast, but probably pinches out toward the middle of the lot since well W5 does not show the presence of Sliverville sand. A new location, W10, is now drilling in order to test these predictions. Another well, Onofrio—McCarthy 6, failed recently to discover the Sliverville sand as was expected from the leakage map. A new location, Onofrio—McCarthy 7, now drilling, is not expected to be more successful than well X42.

The above results prove the workability of geodynamic prospecting for discovering stratigraphic type oil pools. Further drilling in the same region, as a result of geodynamic prospecting, has resulted in the drilling of two other producers, one making 2 barrels of oil and 2,000,000 cubic feet of gas per day, the other is a 2-barrel well, both are producing from the Sliverville sand. Another well located on a broad leakage high discovered an accumulation of 10,000 barrels to the acre in the Bradford Second sand, according to core analysis, but the permeability of the sand is so low that no commercial production was obtained.

Conclusions

1. Geodynamic prospecting for oil and gas fields has definitely passed the experimental stage and is presently accepted as a prospecting tool of high resolving power. Out of seven predictions so far made, six proved correct and the only apparent failure seems to have been due to an error of interpretation of the results. Out of five predictions that oil or gas in commercial quantities would be found, three were correct in every respect, whereas one prediction turned out to be a non-producible accumulation and the other a failure due to error of interpretation.

2. The results so far obtained in geodynamic prospecting have definitely established the theory that the gas leakage from a subterraneous accumulation takes place, not only vertically, but laterally as well. The soil - hydrocarbon halo observed by soil-analysis methods is, therefore, a soil manifestation depending altogether on the soil characteristics which may, however, be related to oil and gas accumulations in a limited number of cases.

3. Geodynamic prospecting has the advantage of possessing "depth control": i.e., the ability to distinguish between a shallow and a deep accumulation.

4. Geodynamic prospecting requires but a limited number of stations in order to establish the petroliferous character of a property or block of leases and is, therefore, an economical as well as a fast reconnaissance or detail prospecting method.

5. The geodynamic process is fast in operation due to the ease with which the test-holes may be drilled and the field piezometers installed and recovered.

6. No corrections whatsoever for the types of soils, their peremabilities, porosities, and other characteristics are necessary.

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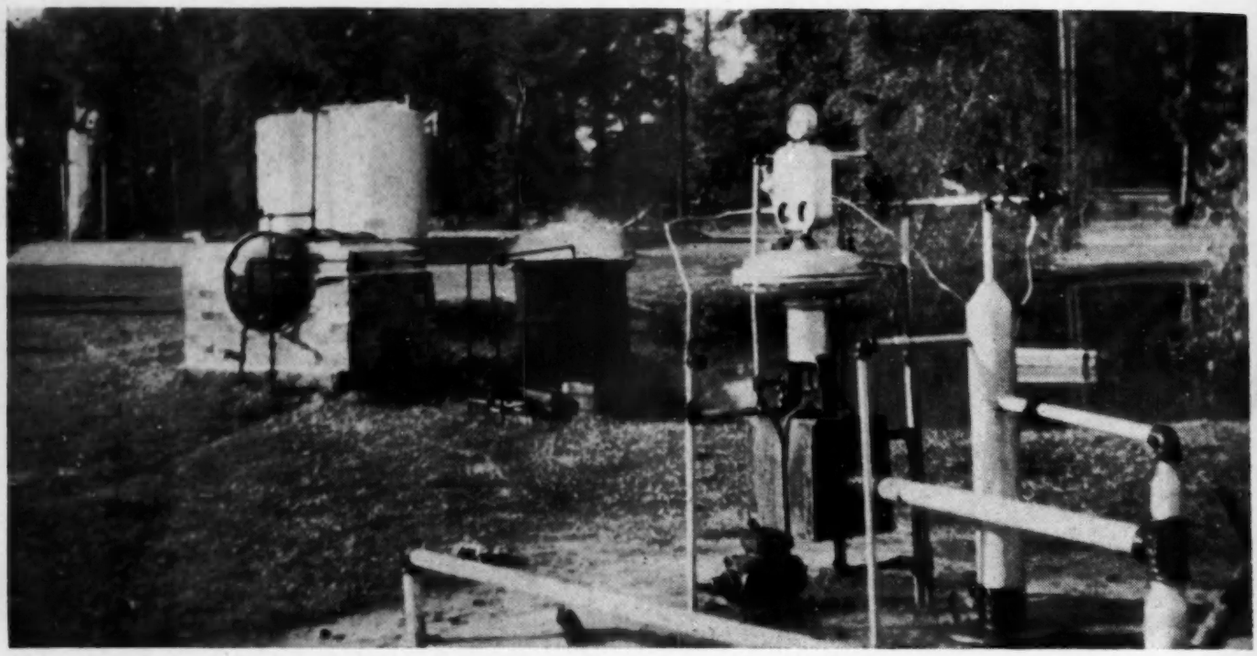

Preventing Hydrate Formation In High Pressure Regulator

By WILBURN BRUSTER, Field Superintendent, Glassell & Glassell

In many gas-distillate fields, tests prove that to extract the maximum amount of condensate from the gas a considerably higher pressure must be carried on the separator than the 300 to 500 pounds which most utility companies maintain in their main lines. In this event a high-pressure regulator is necessary. As the separator temperature must be kept as low as possible without incurring the formation of hydrate within the separator itself, the regulator frequently works erratically or unsatisfactorily through a slight sticking of the valve in the regulator seat caused by hydrate formation in small quantities as pressure drops at the regulator. This spasmodic action of the delicate regulating mechanism makes accurate gas measurement difficult.

In meeting such a problem in the gas-distillate fields bordering the Texas-Louisiana line, stage separation is used and maximum separation is secured at about 400 pounds above line pressure on the first or high-stage unit and at utility company's pressure on the second or low-stage separator.

For leases where steam pressure is not available as a part of the lease operations, this need may be met by making a jacket of sheet iron to completely enclose the regulator. Within this jacket is circulated a stream of water whose temperature has been raised to slightly below boiling point.

At one lease, water is drawn from a 30-foot well, cased with three-inch pipe, and jetted with gas to a water tower 16 feet in height, this also supplying water for the switcher's quarters. A flow line from the tank delivers water to a heater formed from a 55-gallon drum, a half-inch stream of water entering the bottom of this drum, enclosed by a furnace which distributes heat over the base of the drum. Water emerging from the take off line at the top of the heater and flowing to the regulator jacket is at a temperature of around 200° F., this being regulated by control of gas to the furnace fire.

A coil heater in the line ahead of the regulator is impractical in this case because the temperature is carried at 60° on the high-pressure side and drops to around 35° on the low-pressure side, allowing gas to enter the second separator at that temperature and thereby securing greater distillate recovery than would be possible were a coil heater used ahead of the regulator.

It is possible with this set-up to carry the low temperature on the second separator without hydrate interference in flow lines because water vapors are separated from the gas in the first stage or high-pressure separator. This unit is uniformly operated at a temperature sufficiently high to insure that the presence of any water cannot freeze and cause hydrate.

By this method, instead of heating the gas in the line so that the hydrate will not form in the regulator body, the regulator body only is heated so that if hydrate is formed it will not adhere to the valve seat.

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FOR ALLIS-CHALMERS

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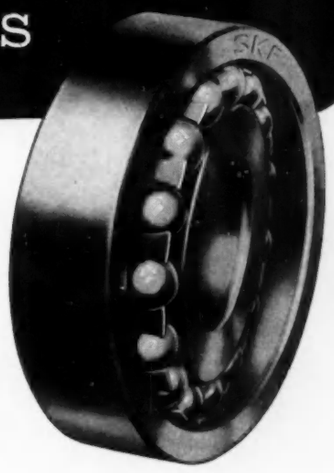

Defense has oil men busier than ever these days. They're saving time with this Allis-Chalmers SKF-equipped Model "E" Single Drum Winch Tractor, for SKF's carry radial and thrust loads in varying combinations with assured high capacity. Consequently, there are no stops for bearing trouble as this Winch goes to work day after day with a 58,970# single line pull at 27.7 feet per minute at 650 R.P.M. engine speed. "Minutes saved for Defense in a day" means hours saved in a week, weeks saved in a year.

4949

SKF INDUSTRIES, INC., FRONT ST. & ERIE AVE., PHILADELPHIA, PA.

Drilling Reduced in Final Month of Active Year

Drilling slowed down appreciably in December, 1941, whereas in some recent years the final month was as active as November.

Nevertheless, completions still were exceptionally numerous, having held above the December levels of all years except 1939, in averaging 630 a week or 90 a day. Even in 1937, December completions averaged only 610 a week or 87 daily. The most active December on record was that in 1939, when outbreak of the present war caused a temporary spurt, and during that month, there were 97.3 completions per day.

In 1941, completions were consistently around 100 daily in July, August, September, October, and November, and they dropped off, therefore, about 10 percent in December.

The exceptionally active latter half of the year made 1941 almost another 1937 in drilling, despite the fact that completions averaged only about 70 per day in the first three months, 85 daily in April and May, and 90 in June. For the whole year, there were 32,292 well completions in the United States, it is indicated by statistics that are subject to slight revision for several districts.

These 32,292 completions for 1941 were exceeded only by those of 33,945 for 1937 (OIL WEEKLY figure) and 33,911 for 1920 (Bureau of Mines).

The completions of 1941 were 7.8 percent above the 30,656 of 1940, on a weekly or daily average basis, the latter total having covered 53 statistical weeks instead of the usual 52.

STATE OR DISTRICT	TOTAL RIGS IN OPERATION (Drilling, Rigs Up, Shutdown)				DETAILS OF JANUARY 1, 1942 FIELD ACTIVITY					
					Rigs in Operation			Prelim. Activity		
	Year Ago Jan. 1, 1941	Month Ago Dec. 1, 1941	Now Jan. 1, 1942	Percent Change From Year Ago	Drilling	Rigs Up	Shut Down	Derricks	Locations	Total Operations
Alabama	5	6	6	+ 20.0	1	1	4	....	....	6
Arkansas	26	26	30	+ 15.4	23	1	6	2	1	33
California	268	294	297	+ 10.8	190	60	47	....	112	409
Colorado	30	26	23	— 23.3	7	....	16	....	1	24
Florida	3	2	2	— 33.3	....	....	2	....	....	2
Georgia	2	1	2	....	....	1	1	....	....	2
Illinois	339	402	377	+ 11.2	298	21	58	20	53	450
Indiana	85	67	67	— 21.2	59	4	4	....	22	89
Iowa	3	....	....	....	....	....	....	....	1	1
Kansas	251	208	235	— 6.4	198	21	16	27	33	295
Kentucky	51	37	39	— 23.5	33	2	4	....	2	41
Louisiana	218	221	234	+ 7.3	187	18	29	21	86	341
North Louisiana	79	80	92	+ 16.5	64	9	19	10	11	113
South Louisiana	139	141	142	+ 2.2	123	9	10	11	75	228
Michigan	122	194	172	+ 41.0	120	18	34	35	87	294
Mississippi	26	34	28	+ 7.7	17	3	8	3	2	33
Missouri	16	5	8	— 50.0	1	1	6	....	....	8
Montana	68	84	76	+ 11.8	37	4	35	....	2	78
Nebraska	37	22	22	— 40.5	11	4	7	2	3	27
New Mexico	95	106	124	+ 30.5	87	7	30	1	19	144
New York	35	148	125	+ 257.1	80	25	20	20	8	153
North Dakota	1	2	....	....	....	....	....	....	....	....
Ohio	256	319	295	+ 15.2	213	30	52	50	21	366
Oklahoma	348	352	302	— 13.2	256	16	28	48	51	401
Pennsylvania	321	430	154	— 52.0	111	15	28	26	10	190
South Dakota	....	....	1	....	....	....	1	....	....	1
Tennessee	11	5	7	— 36.4	5	....	2	....	1	8
Texas	1,003	1,370	1,346	+ 34.2	1,085	75	186	48	834	2,228
East Texas Field	26	8	9	— 65.4	2	1	6	....	....	9
East Texas Border Co.'s	11	14	10	— 9.1	5	2	3	1	1	12
Rest of East Texas	40	73	75	+ 87.5	56	3	16	8	5	88
North Texas	193	173	169	— 12.4	116	8	45	5	245	419
South Texas	227	335	336	+ 48.0	275	25	36	17	236	589
Corpus Christi Area	121	187	185	+ 52.9	160	15	10	8	98	291
Laredo Area	62	88	92	+ 48.4	74	7	11	5	86	183
San Antonio Area	44	60	59	+ 34.1	41	3	15	4	52	115
Texas Gulf Coast	96	141	132	+ 37.5	114	6	12	6	73	211
Texas Panhandle	68	156	150	+ 120.6	131	11	8	4	24	178
West Texas	245	380	385	+ 57.1	329	16	40	7	220	612
West Central Texas	97	90	80	— 17.5	57	3	20	....	30	110
Utah	3	4	4	+ 33.3	2	2	....	....	....	4
West Virginia	196	329	311	+ 58.7	225	32	54	21	53	385
Wyoming	68	52	49	— 27.9	28	....	21	1	3	53
Total United States	3,887	4,746	4,336	+ 11.6	3,274	363	699	325	1,405	6,066

STATE OR DISTRICT	MONTHLY COMPLETIONS								CUMULATIVE COMPLETIONS FOR WHOLE YEAR							
	Total			Details for December, 1941					Total			Details for Year, 1941				
	Year Ago (Dec., 1940)[2]	Month Ago (Nov., 1941)[3]	Latest Data (Dec., 1941)[1]	New Wells Drilled for Oil and Gas			Miscellaneous	Initial Oil Production	1940[4]	1941[5]	Percent Change in Weekly Average	New Wells Drilled for Oil and Gas			Miscellaneous	Initial Oil Production
				Oil	Gas	Dry						Oil	Gas	Dry		
Alabama	1	1	....	....	....	....	....	....	10	5	— 50.0	....	....	5	....	....
Arkansas	13	20	10	6	1	3	....	1,543	179	185	+ 5.4	108	4	71	2	23,502
California[6]	66	116	129	115	5	9	....	59,621	1,030	1,173	+ 16.1	964	25	184	....	682,343
Colorado	2	3	3	1	....	2	....	1,584	10	21	+113.8	8	4	8	1	3,080
Florida	....	....	....	....	....	....	....	....	1	1	....	....	....	1	....	....
Georgia	....	....	....	....	....	....	....	....	....	1	....	....	....	1	....	....
Illinois	318	375	341	247	1	79	14	71,421	3,947	3,935	+ 1.6	2,787	13	849	286	797,583
Indiana	58	52	54	26	6	19	3	3,210	532	546	+ 4.6	262	52	203	29	34,007
Iowa	....	1	....	....	....	....	....	....	1	6	+505.3	....	....	6	....	....
Kansas	180	158	190	113	10	52	15	137,142	2,007	2,217	+ 12.6	1,432	72	587	126	1,879,917
Kentucky	29	37	31	18	1	11	1	647	367	335	— 6.9	133	7	177	18	6,447
Louisiana	151	122	154	96	11	47	....	18,146	1,704	1,557	— 6.9	1,015	96	443	3	195,909
North Louisiana	62	50	81	42	10	29	....	5,048	657	702	+ 8.9	429	78	193	2	46,530
South Louisiana	89	72	73	54	1	18	....	13,098	1,047	855	— 16.8	586	18	250	1	149,379
Michigan	77	85	107	61	16	29	1	114,923	1,193	885	— 24.4	413	84	385	3	372,872
Mississippi	13	16	7	4	....	3	....	2,232	190	198	+ 6.2	151	4	42	1	90,499
Missouri	9	9	8	....	2	6	....	....	93	85	— 0.1	....	18	67	....	....
Montana	27	27	43	19	12	12	....	2,150	192	250	+ 32.7	139	61	50	....	20,817
Nebraska	14	9	8	4	....	4	....	1,257	53	93	+ 78.8	39	....	42	12	16,937
New Mexico	37	30	50	36	1	12	1	6,530	623	397	— 35.0	297	15	81	4	66,011
New York	61	129	172	89	1	....	82	594	957	1,119	+ 19.2	674	3	1	441	4,839
Ohio	147	157	168	48	60	56	4	1,357	1,132	1,774	+ 59.7	421	770	457	126	10,995
Oklahoma	212	129	207	122	14	56	15	39,446	2,147	2,162	+ 2.6	1,169	154	607	232	394,750
Pennsylvania[7]	255	315	335	142	47	9	137	207	3,690	3,971	+ 0.1	1,735	409	122	1,705	2,370
South Dakota	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....
Tennessee	1	3	1	....	....	1	....	....	27	23	— 13.2	....	....	5	18	....
Texas	794	845	1,016	726	32	224	34	358,347	9,775	10,439	+ 8.8	7,575	275	2,441	148	4,175,995
East Texas Field	41	31	14	12	....	2	....	18,016	323	513	+ 61.9	490	....	18	5	877,317
East Texas Border	2	5	2	1	....	1	....	100	27	33	+ 24.8	7	11	15	....	584
Rest of East Texas	29	50	69	49	3	16	1	15,031	265	570	+119.2	376	37	152	5	130,712
North Texas	173	181	230	147	....	69	14	38,205	2,154	2,462	+ 16.5	1,565	12	829	56	505,977
South Texas	203	199	219	141	13	63	2	50,264	2,559	2,401	— 4.4	1,569	97	711	24	576,223
Corpus Christi	102	117	122	86	6	29	1	36,131	1,263	1,304	+ 5.2	972	47	273	12	448,965
Laredo	81	61	67	42	5	20	....	13,942	1,043	808	— 21.0	444	46	309	9	111,371
San Antonio	20	21	30	13	2	14	1	191	253	289	+ 16.4	153	4	129	3	15,887
Texas Gulf Coast	79	58	59	49	....	10	....	8,850	1,185	742	— 36.2	548	25	169	....	126,194
Texas Panhandle	49	63	85	72	9	4	....	16,515	627	708	+ 15.1	636	45	26	1	138,340
West Texas	172	186	272	225	3	29	15	208,461	1,937	2,365	+ 24.4	2,110	11	191	53	1,782,114
West Central Texas	46	72	66	30	4	30	2	2,905	698	645	— 5.8	274	37	330	4	38,534
Utah	....	....	....	....	....	....	....	....	3	3	....	....	....	1	2	....	....
West Virginia	95	74	101	22	63	11	5	647	649	774	+ 21.5	115	508	119	32	1,746
Wyoming	16	9	14	10	1	3	....	1,378	143	137	— 2.3	95	5	20	17	41,896
Total United States	2,576	2,722	3,149	1,905	284	648	312	822,382	30,656	32,292	+ 7.8	19,532	2,585	6,989	3,186	8,822,515

[1] Wells completed in 5 weeks, or 35 days, ended December 27, 1941. [2] Wells completed in 5 weeks, or 35 days, ended December 28, 1940. [3] Wells completed in 4 weeks, or 28 days, ended November 22, 1941. [4] Wells completed in 53 weeks, or 371 days, ended December 28, 1940. [5] Wells completed in 52 weeks, or 364 days, ended December 27, 1941.
[6] California figures from the American Petroleum Institute except for December, 1941. [7] Bradford, Pennsylvania, figures from The Producers Monthly, except for December, 1941.

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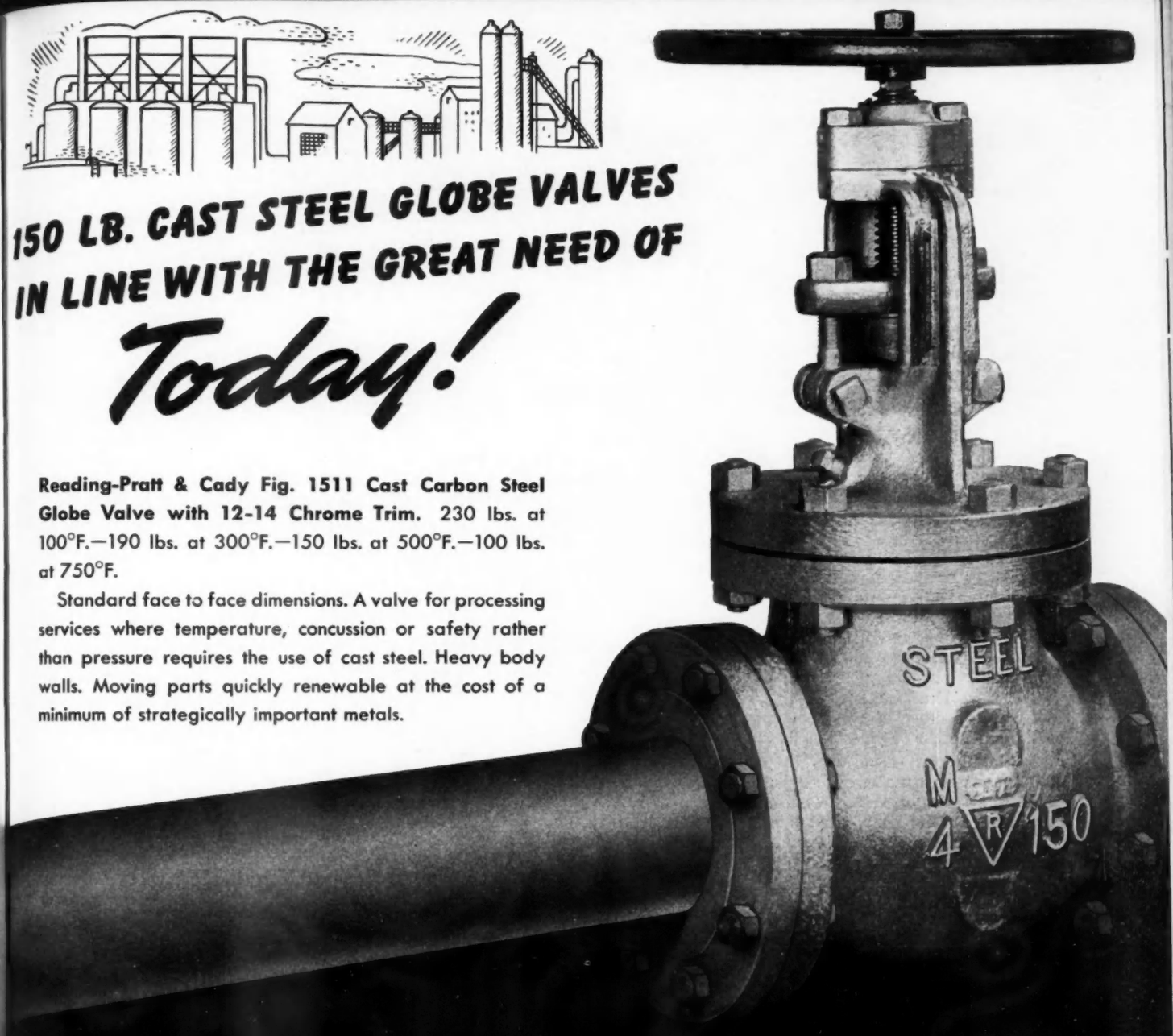

Reading-Pratt & Cady Fig. 1511 Cast Carbon Steel Globe Valve with 12-14 Chrome Trim. 230 lbs. at 100°F.—190 lbs. at 300°F.—150 lbs. at 500°F.—100 lbs. at 750°F.

Standard face to face dimensions. A valve for processing services where temperature, concussion or safety rather than pressure requires the use of cast steel. Heavy body walls. Moving parts quickly renewable at the cost of a minimum of strategically important metals.

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Washington Roundup

[Continued from page 16]

year will fall just short of $59,000,000,000, the budget revealed. Fifty billion dollars—a good half of the total national income—is to go for war production under a program contemplating conversion of every available plant and tool to military output, envisioning a seven-day week and a 24-hour day in every war industry.

To finance this great outlay, the Treasury will ask for $7,000,000,000 in new taxes and an increase of $2,000,000,000 in social security taxes. Under the present tax laws, it is estimated that $17,261,367,000 will be collected in fiscal 1943 and that other revenues will bring the government's receipts to $17,852,090,000. This will leave a deficit of $42,440,792,300, which, however, will be reduced to $35,540,792,300 if a $7,000,000,000 tax bill is enacted. On that basis, the public debt at the close of the 1943 year will be in excess of $110,000,000,000.

In the budget—a volume of some 1300 pages—estimates are given for every activity of the government during the fiscal year, with the exception of those agencies financed from emergency funds granted the President in "blank check" form for such use as he finds necessary.

In this category comes the office of the petroleum coordinator, which is expected to cost $491,735 this year and will probably cost considerably more in 1943 because many positions were not filled until after the current fiscal year began July 1, last.

No estimate is made for the Office of Emergency Management, under which is the Office of Production Management and allied defense agencies, the expenses of which this year are estimated at $121,513,012.

No estimate is made for the protection of federal interests in matters affecting oil lands in former naval reserves, which it is expected can be handled within the limits of the $25,850 now available. These included the Section 16 and Section 36 cases, which are being finally disposed of.

A decrease of $212,220 below the current appropriation of $247,500 is recommended for the petroleum conservation division of the Interior Department, due to the scheduled expiration of the Connally Hot Oil Act next June 30. However, if that act is continued, a supplemental appropriation probably will be asked. An amount of $35,280 is recommended for the expenses of the division in cooperating with the producing states in the prevention of waste and in the adoption of uniform oil conservation laws and regulations.

For the Bureau of Mines a net decrease of $2,049,880 under the present appropriation of $8,390,370 is recommended, due mainly to nonrecurring items in connection with helium investigations and plant construction and equipment amounting to $1,600,000.

Bureau funds for studies in the hydrogenation of coal will be increased from $48,490 to $54,990, and the fund for oil and gas investigations will be increased from $260,000 to $267,120 to meet salary increases required by recent legislation. The sum of $63,380, an increase of $1,000 over this year, is earmarked for studies of petroleum economics.

The Navy Department is to be given $71,755 for operation and conservation of the Naval Petroleum Reserves, compared with $266,500 this year, the cut being due to completion of work now being carried on through the office of the inspector of naval petroleum reserves in California.

Equipment Prices

Prompt acquiescence of Reed Roller Bit Company, Houston, and the New Deal Specialty Company, Inc., Tulsa, to an OPA plea to manufacturers of oil field machinery and equipment to maintain their price level of the first half of 1941 this week elicited commendation from Price Administrator Leon Henderson.

Henderson disclosed January 6 that advances in prices over those prevailing on July 29, last, had been quoted by the two companies but were immediately rescinded upon request of OPA. New Deal Specialty Company had made two quotations on equipment at an increase of 10 percent, and Reed Roller Bit Company advanced prices on drill collar substitutes.

"It is gratifying to receive the cooperation of these manufacturers in our effort to prevent price rises which might lead to serious inflationary spirals," Henderson said.

Enemy

The government of Italy encountered one of the minor disadvantages of being at war this week, when the United States Supreme Court held that the Trading With the Enemy Act suspends the right of enemy plaintiffs to prosecute actions in United States courts.

Result: The Royal Italian ambassador was not permitted to intervene in a case pending in the New Jersey Federal District Court involving a vessel loaded with oil, which he claimed belonged to his government and therefore was immune from suit.

The ambassador filed his petition with the court before Italy declared war upon us. Unfortunately for him, the court did not act until after that fatal date.

Rail Movement

Reversing the downward trend of the past several weeks, rail movement of oil into the Atlantic seaboard territory during the week ended January 3 increased to 2005 cars, an average of 286 cars or 64,350 barrels a day compared with 271 cars or 60,975 barrels in the preceding weeks, it was reported to the OPC.

By companies rail shipments were: Atlantic Refining 6 cars; Gulf 247; Pan-American 26; Pure Oil 51; Shell 144; Sinclair Refining 35; Standard of Kentucky 74; Standard of New Jersey 1153; Sun 12; Texas 122; Tide Water Associated 135.

Drums

Amendment of orders prohibiting the use of sheet steel other than 16 and 18 gauge for the manufacture of steel drums for overseas shipment and restricting their use to shipments abroad of oil, gasoline and petroleum products, was announced by OPM January 7.

Under the revised order, hot rolled sheet steel of any gauge may be used for the manufacture of such drums and they may be used for all kinds of products to be shipped abroad.

It was explained that the original gauge limitation resulted in local shortages of drums for certain purposes.

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Practical Operating Hints for

1. ENGINES

Exhaust Fire Hazard Cut by Water Input

Small water line cut into exhaust cools and silences heated gases.

OPEN or unprotected exhausts from multi-cylinder engines create a serious fire hazard in fields where the gas produced is rich. This is the case in one California field, where every precaution must be taken, particularly on wells being pulled or worked on, to minimize the danger of possibly igniting a pocket of gas that might have collected in a low spot in the terrain near the well or in the cellar.

One company operating pulling units powered by large multi-cylinder engines, uses a simple but very effective method of cooling the engine exhaust, so that when the gases reach the open air, their heat and igniting effect has been considerably reduced, if not almost eliminated. A ⅜-inch line is carried up the outside of the vertical exhaust pipe and tapped into it. When the engine is running, a trickle of water is fed into the exhaust pipe. This moisture combines with the exhaust gases, appreciably lowering the point of combustion. It is necessary that the end of the exhaust pipe be below the base of the engine, so that the water will not accumulate to set up back pressure that might hinder the scavenging action of the engine exhaust.

In addition to the cooling effect, the water also materially lessens the noise of the exhaust, a factor of value in business or residential areas.

2. FOOTING

Belting Treads Cover HazardousWoodSteps

A SAFETY measure taken by one California operator to prevent accidents due to slippery footing on steps used discarded band wheel belting which was cut into appropriate lengths and nailed on the treads. Care was taken to insure safe footing by using only such portions of the belt as were free from shreds and torn or greasy spots. The nails used in holding down the belting were sunk well down into the fabric.

The use of belting in this manner also has an economic value in that the wooden steps last a great deal longer because they are not directly subject to nails and metal inserts in shoe soles.—*Ralph L. Fowler, Alhambra, California.*

3. COMPLETIONS

Flow Bean Vibration Snubbed by Support

EXTRA precautions must be taken on high pressure flowing well fittings to make sure that no portion of the Christmas Tree is unsupported. This applies particularly to the heavy flow beans and flow lines that usually are subjected to considerable strain, brought about by their own weight combined with the throbbing of high flowing pressures.

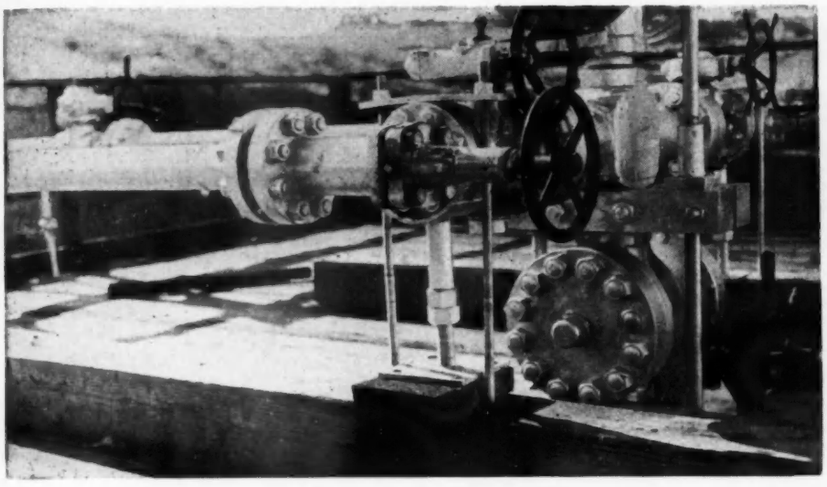
One California company has devised a simple, but effective screw jack to support the flow beans, regardless of the height of the fitting above the derrick floor. One end of a 6- or 8-inch length of 1- or 1½-inch pipe is welded to a small segment of casing, the diameter of such casing depending on the size and shape of the body of the fitting to be supported. An 8-inch piece of ⅞-inch threaded bolt stock is similarly welded to a 5-inch square flat piece of steel plate. Two nuts, one serving as a jam nut, are run up on the threaded stud and the free end of the threads inserted into the open end of the piece of pipe. The nuts can be run up and tightened at the desired point.

In order that a more rigid sup-

Cut to width and length of stair treads, these belting strips are nailed in place and form firm yet resilient safe footing under all weather conditions.

THE PRODUCTION MAN . . .

port may be secured, an over-head tie-down, using two long ½-inch bolts, is employed to tie down to a timber laid on the derrick floor. By tightening the top nuts and lower jack nuts at the same time, a solid, dependable, yet easily removed support is obtained.



Adjustable by means of stud and lock nuts, this support carries weight of cantilever set flow bean and flow line and protects fittings from heavy strains.

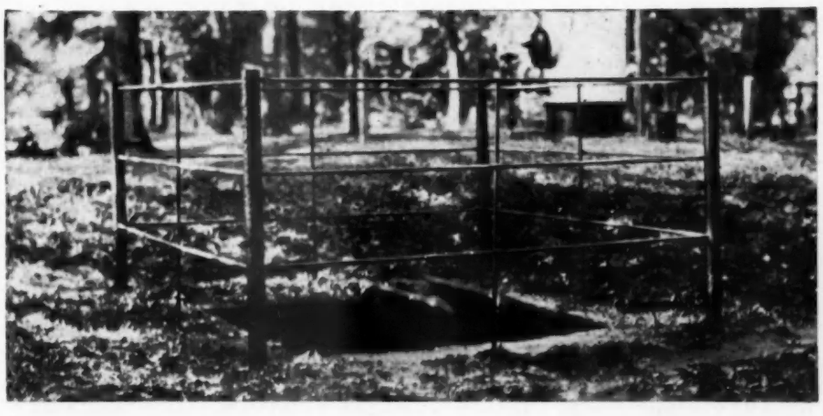
4. WASTE REMOVAL

Sump Pit Enclosure Forestalls Accidents

A SUMP where rainwater or tank drainage accumulates at the lower end of the firewall enclosure often presents a source of danger or annoyance to employes. One operator having concrete-lined sumps, erects sturdy fences around the pit to prevent accidental injury. Four corner posts are driven into the ground sufficiently to afford firm anchorage, and are constructed of short 2-inch tubing, with approximately three feet protruding above the ground level.

Between the posts, three horizontal rods spaced about one foot apart and cut to proper lengths, are welded. In the center of each, an upright is placed to brace the structure, all these being of sucker rod.

The enclosure formed is about eight feet square, and the fence is high enough to prevent unintentional entry. Inside the pit are drains connected with small pumps which lift water, basic sediment, and other residue from the pit and over the firewall for disposal.



Protecting against accidental trespassing or a fall into the pit at night, this all-welded fence may be removed for cleaning of sump and permits visual check.

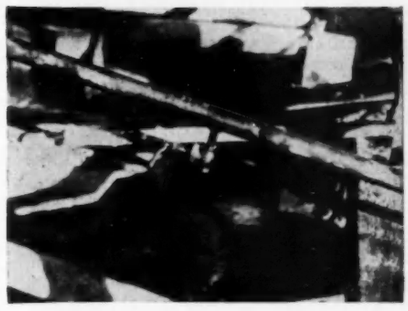
5. SAMPLING

Flow-line Bleeder Cuts Fluid Catching Time

ONE operator uses a bleeder on the flowline near the Christmas tree on new wells to facilitate sampling fluid while the well flows into the tanks, allowing analysis to be made without interrupting ordinary cleaning or potential tests, and without necessity of going to the separator or gunbarrel for fluid.

The bleeder consists of a short ½-inch nipple welded into the bottom of the flowline, the open end equipped with a gate valve for regulating fluid withdrawal. The line is connected with the well immediately upon completion, and facilitates obtaining information regarding fluid characteristics.

A similar bleeder is installed near the separator on the flowline, furnishing an additional convenient place for employes to obtain the desired information regarding water or basic sediment content without interrupting tests.



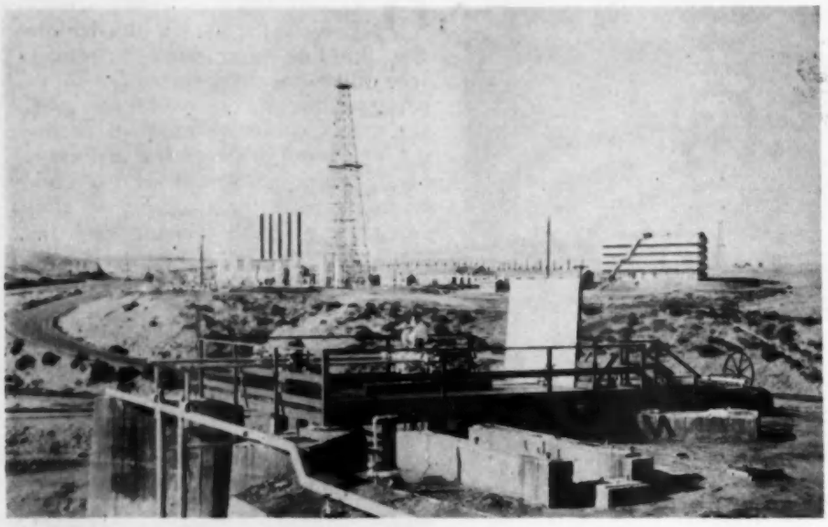
Valve and drop nipple permit catching samples without checking the flow.

THE practical operating hints for the drilling rig and production man, appearing in these features each week, are secured from oil fields everywhere and offer suggestions that will help to improve field efficiency and safety. The items give an excellent picture of the remarkable ingenuity being exercised by the operating divisions of the industry. Contributions to these features will be paid for at the rate of $5 for each illustrated item accepted. Address contributions to "The Editor, THE OIL WEEKLY, Houston."

Practical Operating Hints for

1. BLOW-OUT SHIELD

Protective Device Provides Operating Safety While Closing Controls on Well Running Wild



Sheet steel shield mounted between Christmas tree and extended blow-out preventer controls affords temporary safety while attempting to shut in well.

FIRE or blow-out on a flowing well is far more likely than on a pumping well, and the precautions that may forestall the possibility of such a disaster are well worth the trouble and effort required to install and maintain them.

An inexpensive but very practical adjunct to the several safety measures usually employed such as blow-out preventer, tie-down, or the several auxiliary valves that are used by one company, consists of a sheet iron shield mounted near the edge of the derrick floor on the side from which the extension handles of the cellar blow-out preventers project. While such a shield probably would last but a short while in the event of a serious fire or gas blow-out, it would remain in an erect position long enough to permit a man to get close enough to operate the large wheel of the extension handle.

With such a shield installed, it might be that a workman near the scene a few moments after the blow-out occurred would have time to run up and close the preventer valve, the shield temporarily protecting him from the full blast of the fire or escaping gas. Otherwise, it might be necessary to wait until asbestos suits and other special equipment could be broken out and brought into service. The few extra minutes saved by the presence of the shield might mean the difference between saving or losing the well.

The shield may be made up from four or five 10-foot lengths of corrugated iron mounted on a wooden framework, and braced in an upright position near the edge of the derrick floor.

2. COUNTERBALANCES

Large Pipe as Runner Avoids Floor Hazards

A JOINT of conductor pipe or "big inch" line pipe may be used as guide for tong counterbalance to keep the weights off the floor and out of way of crew. Such a conductor also lessens chance of damage to the rig or danger to employees during high winds by preventing extreme swinging or striking girts of the derrick.

An opening is provided in the floor near one side, and the large pipe lowered through at a slight angle, bottomed on the soil below. The counterbalance on its steel cable, is lowered inside the pipe to a depth about halfway to bottom, to allow movement either up or down as the tongs are manipulated.

The angle at which the pipe is set is adjusted to conform with the line of movement of the counterbalance, which receives its pull in a direction toward the block through which the cable is spooled. By proper adjustment of the container pipe, it is placed parallel to line of motion, allowing the weight to move freely within the pipe with a minimum amount of friction. Size of hole in the floor is sufficient to facilitate lowering pipe through it, but small enough to allow a permanent setting when the pipe is adjusted to the correct position.

Inclined section of "big inch" carries weight and protects opening in floor.

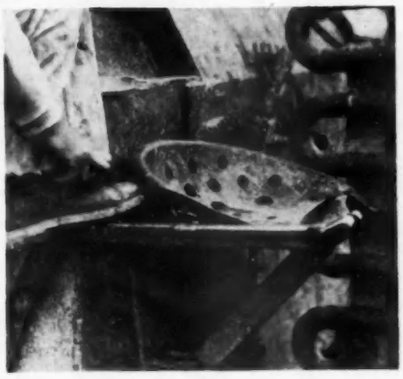
3. OPERATING

Implement Seat Adds To Driller's Comfort

THE seat from a cultivator is used by one Gulf Coast driller to allow sitting at the brake while drilling. The seat is mounted in front of the drum to the left of the brake, in position for the driller to watch all gauges, drilling progress, and the usual conditions which he is accustomed to supervising.

The seat is bolted to a steel plate

THE DRILLING RIG . . .



Added comfort at brake increases care available for supervising the drilling.

which in turn is fastened to a bracket made of flat steel, the entire appartus bolted to the drawworks housing. With all connections bolted, the device may be removed when transporting rig to another location to avoid presence of an extension on the drawworks which might cause trouble and delay in moving. Complete removal is effected by withdrawing two bolts, and the entire seat is lifted from its position. Usually for moving, it is only necessary to take out a single bolt, as the supporting bracket is pinned by an inserted bolt at the lower end, and, by removal of the upper bolt, the seat and bracket are lowered, using the bottom bolt as pivot. This allows the seat to hang vertically and to occupy less space, eliminating any hindrance to moving equipment.

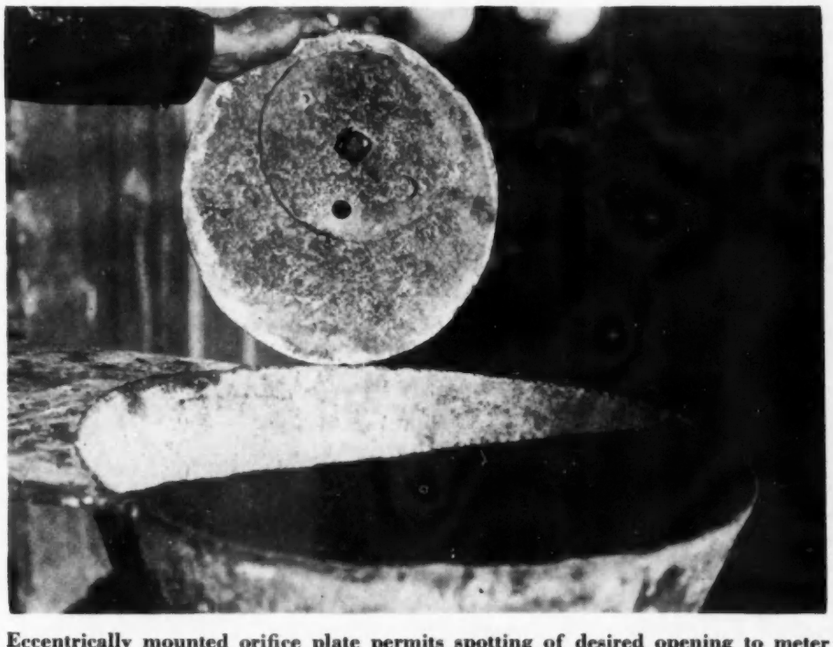
4. MUD MIXING

Graduated Apertures Permit Mix Control

TO FACILITATE uniform feeding of mud material through hopper, one operator made a plate containing orifices of varying sizes, by whose adjustment the volume fed is controlled. The device is set in the lower section of the hopper, and as material is emptied from sacks or other containers, regulates injection into the mud stream.

The apparatus consists of two circular steel plates, each about ⅜ inches thick, but with different diameters. The diameter of the larger plate is about 12 inches, with a 2-inch hole cut through its center. The other plate, with a diameter of six inches, is bolted through its center to the other plate three inches from the middle. Around the circumference of the smaller plate, several holes of different sizes are cut, varying from ⅛ to 1 inch. These holes are spaced from center to allow them to overlie the large hole in turn as they are rotated.

By being superimposed, size of the central opening is varied. When the device is placed inside the hopper after regulation, quantity entering the mud stream through the hopper is controlled and injected at a uniform rate. The plates, not attached to the hopper, are easily removed to readjust orifices.



Eccentrically mounted orifice plate permits spotting of desired opening to meter flow of materials into mixing stream and provide close regulation.

5. HANDLING

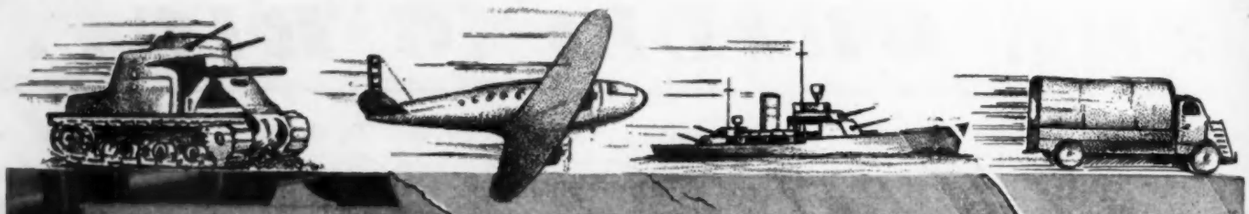
Welded Loop on Piping Assists Transporting

Set just off center to avoid swinging, this eye affords safe and quick pick-up.

HANDLING long lengths of pipe around the rig by means of a winch line, wrapped or tied around the pipe, or even secured with a looped sling of manila rope, requires even balance, or else the pipe is apt to shift within its support and even to work loose, presenting a dangerous hazard at a time when working conditions are none too good, at best.

By welding an eye or loop at or just off center of each joint of pipe used for steam, exhaust and water lines around the rig, one operator makes the problem of moving the pipe simply that of hooking the winch line into the eye, and guiding the lift.

The loops, welded to the pipe, may be turned to lie horizontally when rigging up, if otherwise they might interfere with moving material across the pipe, and when anchoring a line is required, they afford a convenient point for attaching lines or for driving stakes to provide the desired rigidity.



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THE WEEK'S NEWS

Allowables

Illinois Basin Operators To Confer on OPC Rules

Illinois Basin operators will meet at Evansville, Indiana, Monday, January 12, to name a committee which will meet with officials of the Office of Petroleum Coordinator to discuss well spacing and other factors involved in recent federal regulations of the industry.

The committee will attempt to work out a system for development of fields which will comply with requirements of OPC.

Illinois state officals at Springfield indicated issuance of drilling permits, discontinued a short time ago because of the federal spacing order, probably would be resumed by the middle of January.

Governor Dwight Green previously had indicated a system soon would be devised to enforce production quotas and spacing regulations, either by legislation or voluntary agreement among operators.

Committee Appointed to Handle Indiana Proration

The daily oil production quota for Indiana has been set at 17,300 barrels daily, as compared with the daily average production of from 18,000 to 20,000 barrels.

At a meeting with about 80 operators January 1 in Vincennes, Ralph Esarey, state geologist, appointed the following committee to consider a plan to regulate the state's output:

Arch Dye, Evansville; E. C. Welch, Illinois Pipe Line Company, Bridgeport, Ill.; W. C. Vickery, Indiana Farm Bureau Refinery, Mt. Vernon; Ben F. Hake, Gulf Refining Company, Indianapolis; Ralph A. Damp, Carter Oil Company, Mattoon, Ill.; Barron Kidd, Evansville; A. F. Lager, Siosi Oil Company, Terre Haute.

There will be another meeting of the committee in February, Esarey said, when detailed suggestions will be considered. The Griffin pool alone accounts for about 14,000 barrels of Indiana's daily production.

Michigan Boosts Allowable To Meet Local Demand

Increased allowables were granted by Michigan Department of Conservation, effective January 7, to alleviate shortage of crude for refineries within the state.

Roscommon and Winterfield were boosted from 125 to 200 barrels per well daily. Reed City and Adams, cut from 200 to 125 along with other two on January 1, were not changed.

Hoffmaster said allowables set up on January 1 to bring the state total output down to the federal recommendation of 47,400 had actually raised probability of cutting production "considerably below" the federal nomination. An abrupt slow down in drilling, completions, and new starts caused by uncertainty of application of the 40-acre spacing order, according to Hoffmaster, upset the production projection used in ordering the earlier blanket 125-barrel-per-well maximum on flush fields.

Hoffmaster said the state's data on refinery demand indicates that the new allowables will meet the "firm demand" but he added that no provision has been made for continued shipment of crude to plants in Toledo, Ohio. Refineries in Toledo received an average of 5100 barrels a day from Michigan in December.

Hoffmaster revealed that he has asked blanket exemption for Michigan from M-68 on all wells actually drilling, or where derricks or roads had been built or where permits had been issued prior to December 23. He also has asked exemption for the Reed City field, a 121-well field where all wells are located on a 20-acre patterns and where drilling is estimated over 80 percent complete.

Texas Commission Orders Reduction at Old Ocean

A reduction from 21,115 to 19,353 barrels in the daily allowable for Old Ocean field, Brazoria County, has been ordered by the Texas Railroad Commission, effective January 6. The decrease was ordered because of gas/oil ratios.

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Control

California Proration Direction Changed Beginning January

Direction of proration efforts in California was transferred on January 1 to the jurisdiction of the Production Committee for District 5 under the plan of procedure approved by the coordinator, and the conservation committee of California Oil Producers was named the operative subcommittee of the production committee.

The new plan supersedes the voluntary conservation program in California which has handled proration for more than 12 years.

The new allocation method is based on provisions laid down in the plan approved by Ickes and gives effect to the maximum sustained production rate at which individual pools can produce under engineering principles set forth in the plan. Under the voluntary program allocations were made on the basis of well potentials in accordance with a formula uniformly applied to all wells.

The new plan, giving consideration to gas/oil ratios, formation pressures, and other engineering principles, gives no weight to potentials, and except for minimums, no weight for depth. Neither does it set up an arbitrary maximum production rate for individual wells, which also was a feature of the former plan, and which limited the production of maximum producers in December at 139 barrels daily.

Producers were informed that while the plan was fully effective immediately, it might be modified as conditions warranted to meet transportation problems and to keep stocks of most desired grades of crude at proper levels.

Of the state's 646,200 barrels daily quota assigned by the coordinator, 638,600 barrels daily was assigned to 76 fields, the 7200 barrels daily balance being reserved for assignment to newly completed wells.

In preparing data for allocation of quotas, the committee arrived at an effective sustained productive capacity for all California wells of 913,755 barrels daily, of which 35,646 was represented by shut-in wells, leaving an effective total of 878,109 barrels daily from 17,771 producing wells.

E. E. Pyles, chairman of the production committee for District 5, has resigned as vice president of Hancock Oil Company of California to devote his full time to committee activities.

Field quota distributions for California for January of 638,600 barrels daily represents an increase in the total of 26,818 barrels daily over the December quota for the state of 611,782 barrels daily. New quota for the San Joaquin Valley district is 277,466 barrels daily, compared with 264,966 in December, an increase of 12,500 barrels daily. The Coastal District fields were increased from 81,273 barrels to 84,506 barrels daily, an increase of 3233 barrels daily. Los Angeles Basin fields were increased

from 265,543 to 276,628 barrels daily, an increase of 11,085 barrels daily.

Wilmington field was given the largest quota in the state at 78,471 barrels daily, 1414 barrels less than its December quota. Long Beach was second at 37,235 barrels, an increase of 2612 barrels from December. Only two other fields were given quotas exceeding 30,000 barrels daily, Ventura Avenue and Midway-Maricopa with 34,305 and 32,623 barrels daily each respectively.

Texas Order Allocates 62 Fields for Aviation Fuel

The Texas Railroad Commission last week issued an order finding that crude oil produced from 62 specific fields "is hereby found by the commission to be aviation-grade crude petroleum suitable for military use," and limited them to that use.

In addition to the fields listed in order, the commission found that "all other fields not listed herein which are found capable of producing at least five percent by volume of a debutanized naphtha having the requisite quantities of 'aviation-grade naphtha' as defined herein shall be classified as aviation-grade crude fields. The quantity of such 'aviation-grade naphtha' contained in the crude shall be sufficient to permit its separation from the crude by means of existent distillation facilities in a manner consistent with normal refinery practices.

"'Aviation-grade naphtha' shall be defined as a naphtha having the following characteristics:

"(1) the temperature at the 90 percent point by ASTM distillation shall not be less than 240° F.

"(2) the octane number shall not be less than 90 after the addition of four milli-liters of tetraethyl lead per gallon.

"(3) the Reid vapor pressure shall not be greater than seven pounds per square inch.

"(4) the distillation and testing specifications and methods shall be as required by Army-Navy specifications AN-VV-F-776."

The Commission announced that this order was issued in support of OPC Recommendation No. 28 which recommended that production allowables to fields and pools be fixed in such a manner as will efficiently:

"(a) provide aviation-grade crude petroleum, to the full extent that such petroleum can be utilized for the production of aviation gasoline, to refineries that are actually utilizing their aviation gasoline refining facilities and their current supplies of aviation-grade crude petroleum principally for the production of aviation-grade gasoline for military purposes;

"(b) provide increased allowables to the extent that the production can be utilized by additional aviation-grade gasoline refinery capacity as it becomes available, to those fields capable of supplying such additional refinery capacity with aviation-grade crude petroleum;

"(c) encourage the efficient recovery of additional quantities of aviation-grade gasoline components from natural gas, condensate and oil fields of each state."

The specific fields listed in the commission's order had a total schedule daily allowable of 439,223 barrels, as of January 3, with 11,767 wells.

Of that total allowable, 183,616 barrels is allotted to the Southwest Texas District, while 221,900 barrels is assigned to Gulf Coast fields. The remaining fields listed in the order are in East Central Texas and West Texas.

Of the 62 fields named in the order, at least six produce low-cold-test crude. Humble Oil & Refining Company and The Texas Company have consistently renewed their requests at statewide hearings for the past several months urging an increase in allowable for fields producing that type crude. Although crude from such fields reportedly yields only a small percent of aviation gasoline, they are peculiarly adaptable to the manufacture of high-grade lubricants essential to national defense.

There are seven shutdown days for all fields in Texas during January, with certain exceptions because of producing conditions. Relatively a small percent of the 62 aviation-grade crude fields are exempt from shutdowns. Thus, the commission could easily increase the output of this type oil by merely lifting all shutdowns for those fields, thereby making a half-million barrels of that crude immediately available each calendar day for military purposes without affecting the commission's formula whatsoever.

The fields named in the order are, by district, as follows:

District 1. Luling.

District 2. Lolita, West Ranch, Heyser, La Rosa, New Refugio, Tom O'Connor.

District 3. Amelia, Anahuac, Hitchcock, Batson, Cedar Point, Clear Lake, Conroe, Cotton Lake, Fairbanks, Webster, Hardin, Hastings, Hillje, Hull, Lovell's Lake, Magnet, Old Ocean, Raccoon Bend, Raccoon Bend Cockfield, Rowan, Segno, Sheridan, South Cotton Lake, South Houston, Withers, Tomball, Turtle Bay, West Beaumont.

District 4. Alfred, Clara Driscoll, East White Point, Plymouth, Reynolds, Taft, Wade City, Turkey Creek, Orange Grove, Bridwell, O'Hern, Conoco Driscoll, Fitzsimmons, Hoffman, Loma Novia, Benavides, Rincon, Sun, Government Wells, Colorado, Kelsey, South Alice (Ben Bolt), Saxet, Luby.

District 6. Cayuga, Long Lake.

District 8. Yates.

With respect to these fields, the commission ordered:

"It is hereby ordered by the Railroad Commission of Texas that no crude oil produced from any of the fields listed above or having the characteristics of aviation-grade crude petroleum as defined above be processed in any refinery in the State of Texas unless there is obtained from such crude oil the maximum quantity of aviation-grade naphtha reasonably obtainable by normal refinery practices.

"It is further ordered that all refineries processing crude oil produced from any of the fields listed above or having the characteristics of aviation-grade crude petroleum as defined above, keep records and be prepared to report to the commission the quantity of such crude oil processed in such refinery, the quantity of aviation-grade naphtha produced, the quantity of 100-octane-aviation gasoline produced, the quantity of naphtha blended in such 100-octane-aviation naphtha, and the quantity of 91-octane-aviation gasoline produced."

Ask Larger Proration Units For 15 Texas Fields

Revision of rules to allow larger proration units in 15 Texas oil fields has been requested of the Texas Railroad Commission by Humble Oil and Refinin Company. Nine of these fields were listed by the commission in its recent order classifying aviation-grade crude fields. Thus, not only could allowables be raised by elimination of shutdowns where aviation crude is produced, but larger units may double the total field production in some instances.

Larger units accomplish a two-fold purpose — an allowable increase and elimination of unnecessary drilling.

Hearings called at Humble's request:

January 27 — Anahuac, Chambers County; Colorado, Jim Hogg County; Hastings, Brazoria County; Magnet, Wharton County; Sun, Starr County; Webster, Harris County; Stratton, Nueces County.

January 28—Clara Couch, Crockett County; Hawkins, Wood County; Lolita, Jackson County; Maurbro, Jackson County; Tomball, Harris County; South Noodle, Jones County; West Ranch, Jackson County; Flour Bluff, Nueces County.

Associations

API Mid-Year Dates Announced May 25-28

The American Petroleum Institute's Twelfth Mid-Year Meeting has been scheduled for May 25-28, 1942, in the Oklahoma Biltmore Hotel at Oklahoma City.

Monday, May 25, and Tuesday, May 26, will be devoted to committee meetings. On Wednesday morning, May 27, the board of directors will hold its regular semi-annual meeting. At noon Wednesday there will be a general session luncheon. Groups sessions of the Division of Production and of Refining will be held in the morning and afternoon on Wednesday, May 27, and Thursday, May 28.

Institute headquarters and registration desk will be at the Oklahoma Biltmore Hotel and will be open from Monday morning, May 25, through Thursday, May 28.

Parsons to Be Honored at East Texas Dinner Meeting

Claude P. Parsons, Halliburton Oil Well Cementing Company, Duncan, Oklahoma, will give a paper on "The Use of Subsurface Calipers in Well Logging," before the East Texas Section of the American Institute of Mining and Metallurgical Engineers at Kilgore, January 13.

A dinner will be held at 7 p. m. honoring Parsons. He will present the paper at 8 p. m.

Bob Pederson, N. N. Jones, and Curtis F. Maxwell are in charge of reservations. Curtis F. Maxwell is secretary-treasurer of the section.

MARVIN LEE, consulting geologist, Wichita, for some years geological assistant to Kansas Corporation Commission, has been assigned to OPC office in Chicago under the direction of Wirt Franklin.

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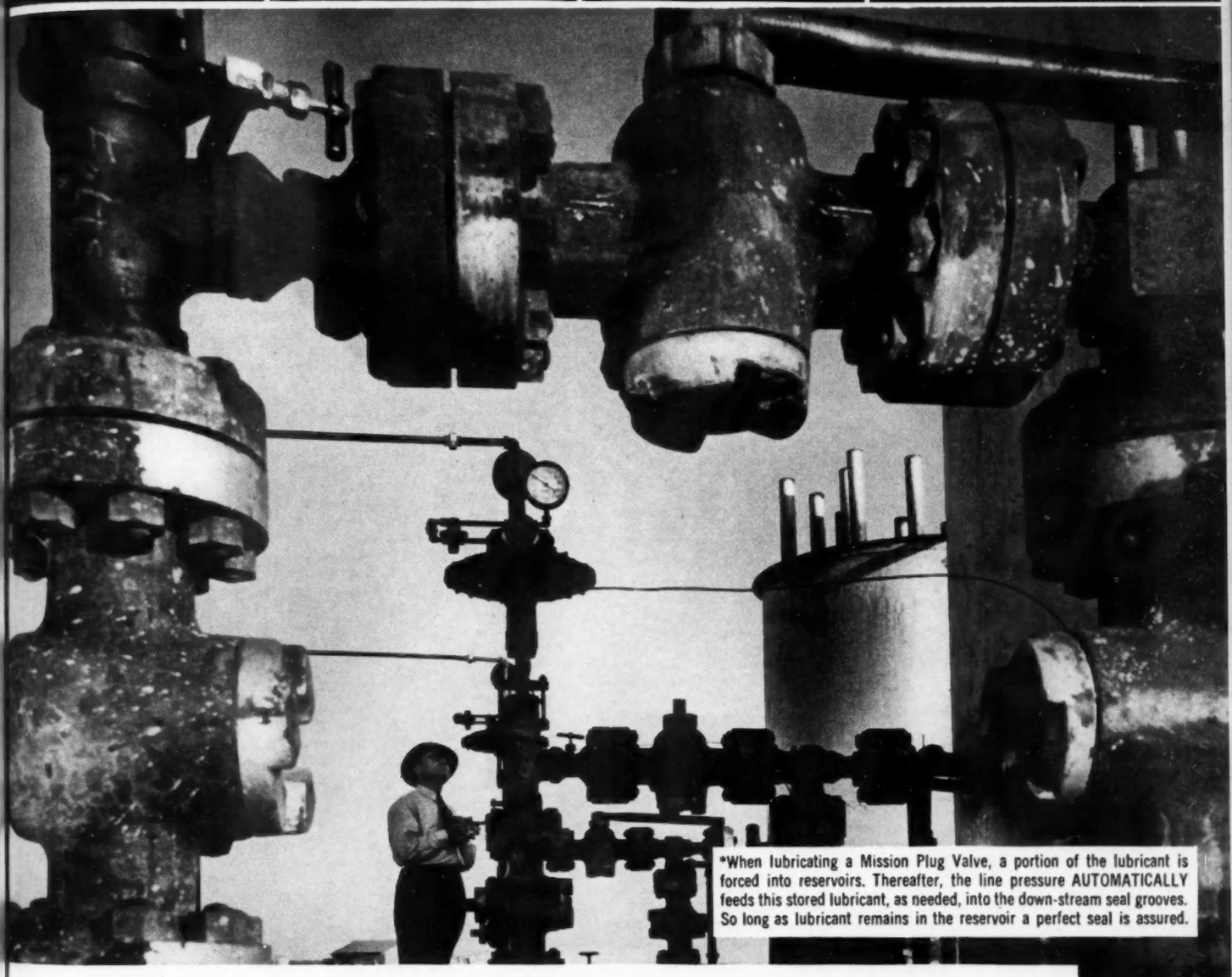

*When lubricating a Mission Plug Valve, a portion of the lubricant is forced into reservoirs. Thereafter, the line pressure AUTOMATICALLY feeds this stored lubricant, as needed, into the down-stream seal grooves. So long as lubricant remains in the reservoir a perfect seal is assured.

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3. **WEDGE-PROOF SUPER-SURFACED CORE**—Cylindrical Core positively cannot wedge—permits easy turning • Perfect fit of core to body conserves lubricant and maintains leakproof seal longer • Lubricant lasts longer . . . saves time . . . saves valves • Super-Surfaced core provides extra resistance to abrasives and corrosion agents • Reduces wear — lasts longer

4. **SEALING GROOVES ON CORE** — Never exposed to fluid • Prevent loss of lubricant into fluid line . . . insures constant seal • Protects sealing grooves on core from direct cutting action of fluid • Lessens intrusion of abrasives into lubricant sealing grooves . . . reduces wear on vital sealing surfaces • Prolongs life of valve

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World-Wide Developments

Appraisers Begin Conferences to End Deadlock in Mexican Expropriation

DISCUSSIONS designed to fix for compensation purposes the value of the American oil properties expropriated by Mexico in 1938 got under way in Mexico City January 5 with the arrival in the Mexican capital of Morris L. Cooke who will serve as official appraiser for the United States. The Mexican member of the two-man commission is Ricardo J. Zevada.

These experts were named by their governments in keeping with the accord of November 19, 1941, by which a mutually satisfactory solution of the nearly four-year-old petroleum controversy is sought. Their job is to fix, if possible, a just compensation figure and to recommend, perhaps, feasible and satisfactory method of handling payment.

Cooke is a public utilities engineer. Past activities include service in the rural electrification program in 1934-35 and with the Tennessee Valley Authority.

The Mexican representative, Zevada, is Undersecretary of the Ministry of National Economy. He was a member of the government commission named to evaluate the expropriated oil properties two years ago. That commission fixed the value of all the sized properties at some $35,000,000. The companies declined to take such a valuation seriously. This may be explained in part when it is recalled that at the time of expropriation various reliable estimates of the value of the properties quoted the sum of $450,000,000, of which British holdings were declared to represent $250,000,000.

Subsoil Rights

In their efforts to reach an agreement on the expropriated American properties, the two official experts are due to find the question of subsoil rights the most difficult point of consideration. The Mexican government has contended throughout that oil under the ground is inherently the patrimony of the nation and therefore definitely excluded from consideration in evaluation proceedings. On the other hand, the companies have held steadfastly to the contention that oil under the ground is an inseparable part of the properties they were forced to surrender. There has been no evidence to warrant belief that either the Mexican government or the oil companies will give ground on their respective stands.

Between the current negotiations to fix acceptable valuation and final adjustment are a number of ifs and ands that promise to demand long and thoughtful attention. Observers call attention to the fact that if a valuation agreement acceptable to both Mexico and the companies is reached, the size and method of handling the compensation payment may present difficulties. Under the Washington accord, final compensation is to be made within the remaining 7 years of the 10-year period from the date of expropriation which the Mexican government itself, on expropriating the properties, specified as the period for writing off the indemnity. It is obvious that the compensation must logically be paid in oil or come from the revenues of the oil industry. A survey of the present condition of the Mexican oil industry encourages little optimism over any sizeable indemnity within the next seven years. Unless, of course, there is a marked change in current methods of operation.

British Holdings

Considerable speculation abounds in oil circles over what is to be done about the British holdings in view of the fact that the current evaluation proceedings take into consideration only the expropriated American properties. There is opinion in some quarters that if settlement with the American companies is reached, the United States or the American companies may be asked to negotiate for settlement of the British claims. Diplomatic relations have been resumed with Great Britain, but so far as is known no negotiations to make final adjustment of the oil issue have been proposed.

The American appraiser, will be assisted in the Mexico City discussions by an imposing staff of economists and engineers. Similar assistants will work with the Mexican representative. The two-man commission will have five months from November 19, in which to agree or disagree. In case of agreement a joint report is to be made to the two governments. If no agreement is reached, each appraiser is to report to his respective government within 30 days after expiration of the 5 months. The 5-months period will end April 19. One month of this period passed before the appraisers were named and got down to business.

Further provision in the Washington accord permits a 5-months period of negotiations between the two governments in the event the appraisers fail to agree. In consequence the whole process of negotiations may be extended to October 19 of this year.

Failure to reach any agreement during this period would return the controversy to its status quo and the Mexican government could be expected to withdraw the $9,000,000 token payment put up as the initial installment on the indemnity. This $9,000,000, incidentally, came from a sum advanced to Mexico from the United States stabilization fund.

Careful students of the whole controversy see in the present plan to reach an agreement the final effort of the United States State Department to reconcile the opposing viewpoints. If the current negotiations fail, it is believed the State Department will chuck the whole problem back into the laps of the companies and the Mexican government and let it get settled if and when and by whatever means it may.

Workers' Claims

Determined not to be forgotten in the matter are the oil workers who still contend they have a claim against the expropriated companies for alleged breaking of collective labor contracts. This claim is the considerable sum of 117,000,000 pesos, or, roughly speaking, about $23,000,000. The oil workers syndicate has asked the Mexican government repeatedly in recent months if this claim is to be deducted in favor of the workers from whatever compensation Mexico agrees to pay. Reports are that Petroleos Mexicanos, the government oil administration, has spent 1,000,000 pesos in calculating the amount of and preparing formal presentation of this claim.

An analysis of the Mexican oil industry at the end of nearly four years of government operation does not present an economically favorable picture. The average daily production total for the period since expropriation is considerably under the total for 1937, when the private companies were operating. Cost-per-barrel of production is almost double that of 1937 in some fields. The price-per-barrel received for exports averaged 70 cents in 1941, as against $1 in 1938. Refinery output of gasoline has dropped steadily while domestic demand has increased. The industry has, in fact, been importing refined gasoline. And stocks on hand at the end of 1941 totaled only about 14,000,000 barrels, approximately the same volume as at the end of 1937, despite repeated reports that Petroleos Mexicanos had been storing up huge stocks with which to meet the indemnity payment.

Refineries are in crying need of extensive repairs and distribution of refined products to the domestic market has frequently been so upset as to create serious delays in the supply to industry.

During 1937, when the private companies were operating, average daily production in Mexico totaled 128,000 barrels, an increase from 112,000 barrels daily for 1936. Since expropriation in 1938, the average daily yield has averaged 113,000 barrels. For 1941, the average daily production was 115,000 barrels.

The situation boils down to the fact that the Mexican oil reserves are being high-graded. Sixty percent of the total production of 150,000,000 barrels since expropriation has come from 30 wells in the Poza Rica field, the newest and richest development in the country. The three old fields, in which some 800 wells are still producing, have yielded only about 60,000,000 barrels in the last 3 years and 9 months, or since expropriation. These 3 fields produced 28,000,000 barrels in 1937. Since the government administration is operating with even larger field forces than the private companies, it becomes apparent that the present cost-per-barrel of production in the 3 old fields is double that of the days of the private companies.

From March 18, 1938, through November, 1941, or during the 3 years and 9 months since expropriation, exports of crude and products have totaled 64,000,000 barrels, valued at $51,000,000.

Of this total, more than 12,00,000 barrels were delivered to companies having arrangements with Pemex and more than 14,000,000 barrels were shipped to

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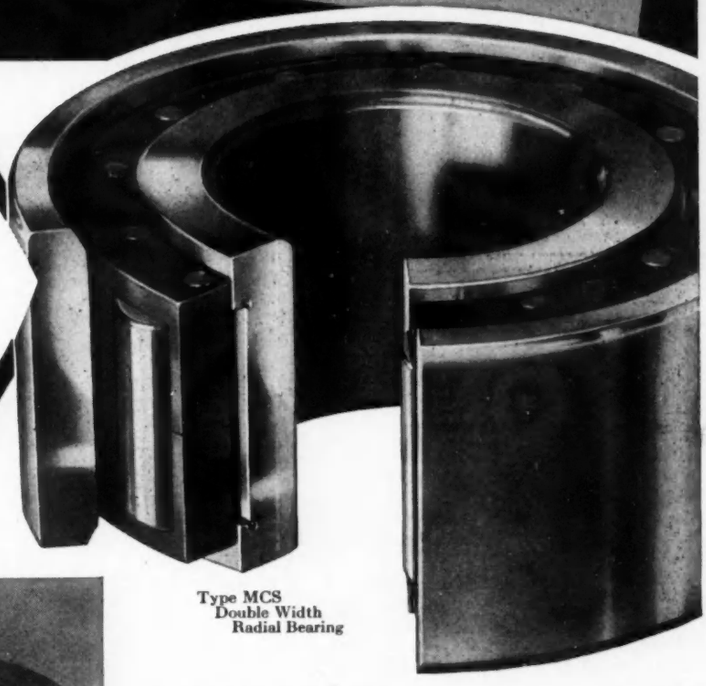

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Pemex's refinery (Eastern States) at Houston. Concerning this Houston refinery operation, the petroleum workers syndicate, in an open letter to then President Cardenas, published in July, 1940, charged that it is "costing Pemex $5,000 a day."

During 1938 and 1939, Germany and Italy received 19,500,000 barrels of Mexican crude and products against future deliveries of German merchandise and three Italian-made oil tankers. Germany got 11,500,000 barrels of the total. By this barter deal, Mexico piled up a credit of 20,000,000 marks in Germany, $3,500,000 in Italy. Collection of these obligations holds little promise.

Of the remaining exports, 19,000,000 barrels were sold on the United States market at low prices, the balance went to various other countries.

The average price-per-barrel received for exports in 1938 was $1, in 1939—80 cents, in 1940—75 cents, in 1941—70 cents, according to careful approximations.

Refined gasoline output in 1941 totaled about 4,100,000 barrels, or a 13 percent recovery on crude runs, as compared with 7,250,000 barrels in 1937 (when the private companies were operating), or a 19 percent recovery on crude runs. The domestic demand has been registering a regular annual increase of 12 percent. Domestic consumption for 1941 was about 4,400,000 barrels, or some 300,000 barrels more than production in the country. In order to supplement the domestic refinery output, Pemex has been importing refined gasoline made from Pemex crude in the Houston refinery.

Oil Producer Completed in Mulata Field, Venezuela

Standard Oil Company of Venezuela and Pantepec Oil Company of Venezuela have completed the first oil well in Mulata field in Monagas State, Eastern Venezuela. Mulata 2, tested 570 barrels daily of 34.7-gravity oil through 3/16-inch choke from two levels between 4590 and 4751 feet. A test of the upper zone alone showed 327 barrels daily of 28.5-gravity oil through 5/16-inch choke. The well is 1400 yards south of Mulata 1, which was completed last October as a gasser showing 2,500,000 feet of gas daily through 3-inch orifice. Drilling in Mulata 3, 720 yards southeast of No. 2, was begun December 30. An additional string will be put into operation at once.

W. F. Buckley, president of Pantepec, says that it should not take over 30 days on the average to complete a well in the area. "It is therefore expected that some 30 wells should be finished on the Amana River Block (containing Mulata field) by the end of 1942. While it is too early to estimate what the net production will be from these wells, it can be stated as the opinion of experts that the Mulata field will develop into an important producing field several thousand acres in area, that the Jusepin field will be extended into the Amana concession, and that there is a strong possibility that other important fields will be discovered on the Amana River block. Completion of an extension of the Standard pipe line (running from the Jusepin field to Caripito) to the Mulata field should not take over 30 or 40 days. It may be 3 or 4 months, however, before the shipment of oil will be started."

The new field, lying in the extreme western end of Pantepec - Standard's 112,174-acre Amana River concession, is on a line between Venezuelan Petroleum Company's Santa Barbara field and the Jusepin field. The three Mulata wells average only about 2 miles from the Santa Barbara wells, for which a 100-mile, 12-inch pipe line running to Guanta will be built this year.

Lone Colombian Strike in 1941 Making 340-400 Barrels

Shell Petroleum Company of Colombia's Casabe 1, reported the only successful wildcat drilled in the Magdalena River valley in 1941, is completed and on regular production. It is rated a 340 to 400 barrel well. Production is by gas lift, the oil being used at present as fuel. Casabe 2 will be spudded soon and a third test is planned.

Prior to adjournment of the Colombian congress last month, provisoins were made for a study of the oil industry for consideration at the next session in July, 1942. A special house committee will prepare a report on historical development of the oil industry, costs of production and transportation, capital investment, government income from the industry, labor conditions, and comparison of the Colombian industry with those of foreign countries.

Despite continuation of serious legal handicaps which the present Colombian oil law imposes on efforts of oil companies to drill on private lands, congress falied to act on a proposed amendment to the law. The measure failed to pass a second reading in the lower house, although the oil committee of the house reported favorably on the measure with some alterations. This bill or a substitute is expected to receive consideration in the next session.

Jap Invasion Stops Philippine Oil Drilling

War in the Philippines has been a blow to a promising drilling program instituted by the Philippine government in 1940. At the outbreak of the Japanese attack on the islands two rigs were in operation with favorable shows encountered. Far East Oil Development Company, the only private organization operating in the islands, had reached 8300 feet in a test of the Daanbantayan structure on northern Cebu Island, with a rig capable of going to 10,000 feet, where basement was expected. The other test was being drilled below 800 feet at Barili, south-central Cebu, by National Development Company, a government organization, with expectation that it would not be necessary to go below 4000 feet in the structure. Previously, this company had drilled another hole at Barili to 2300 feet, but trouble in keeping circulation because of badly cracked limestone caused abandonment of the hole.

Following completion of the work at Barili, National Development had planned to test the Calubian structure in northern Yeyete Island. Preparatory to this project, a three-mile road was being built from the sea to the site selected for the test.

Early in 1939 the Philippine government appropriated $250,000 for a government-sponsored exploration and drilling program. A geological survey began that year with American geologists and paleontologists in charge. In the spring of 1941 a report was filed to show results of the work, and a number of drilling sites were selected. The first test begun was that of National Development Company on the Barili anticline at Cebu.

Lago Refinery at Aruba Plans 1942 Expansion

Launching of a $10,000,000 expansion program for 1942 in the Aruba refinery of Lago Oil & Transport Company has been announced. Scheduled to start the middle of this year, the program includes construction of a new cracking unit and expansion of facilities to make aviation gasoline. Crude capacity of the Aruba refinery is about 290,000 barrels per day. The plant refines much of the oil produced in Venezuela by Standard Oil Company (New Jersey) subsidiaries.

Mexican Output Down Three Percent in 1941

Mexican oil production last year suffered a 3 percent drop from production in 1940. On the basis of 11 months figures the yield in 1941 was about 42,400,000 barrels, a daily average of 116,000 barrels. Loss of foreign markets, difficulties with obsolete refining equipment in Mexico and inability to obtain new drilling equipment were factors in the decline.

The Ministry of National Defense has announced that a protective system of federal troops and local police has been formed to guard all the oil fields, particularly those around Tampico, from sabotage.

Uruguayan Section of Institute Organized

Formation of the Uruguayan national section of the South American Petroleum Institute has been announced. This is the first national section to be established since the institute was formed last spring to promote oil development and exchange of technical information among South American countries. National sections may be established in each country having a minimum of 25 active institute members consisting of government agencies and private companies.

The provisional board of directors of the Uruguayan section consists of 11 members headed by the president, Carlos R. Vegh Garzon, general manager of the Uruguay government agency Administracion Nacional de Combustibles, Alcohol y Portland (ANCAP).

Converters, Transmissions Will Be Discussed

"Theory, Design and Application of Torque Converters and Hydraulic Transmissions" will be discussed at the sectional meeting of the American Institute of Mining and Metallurgical Engineers, January 13, at River Oaks Country Club, Houston. The subject matter will be discussed particularly as it applies to oil-well-drilling operations.

The presentation will be made by Carl Anderson, chief engineer of American Well & Prospecting Company; F. J. Wheelan, manager Reciprocating Pump Sales Division, Worthington Pump and Machinery Corporation, Harrison, New Jersey, and J. B. Jenkins, district manager of Twin Disc Clutch Company, Tulsa.

Production Sharply Higher; Texas Output at New Peak

United States crude oil production increased sharply in the week ended January 10, as Texas fields produced all days except one, whereas they had been shut down two days in the previous week. The national output averaged 4,251,700 barrels daily, compared with 4,046,450 the week before, an increase of 205,250 barrels. The production was temporarily above the petroleum coordinator's recommendation for daily average output of 4,138,400 barrels daily for January, in reflection of the operation of the Texas shutdown system in proration.

Texas itself set a new record in averaging 1,715,200 barrels daily, and some oil men were of the opinion that the state was for the week close to the limit above which it could not consistently produce, week after week, without damage to wells; and they pointed this situation out as evidence that the oil industry should be allowed ample material and equipment to maintain drilling at a high rate in order to find new fields. Texas production was up 218,100 barrels for the January 10 week, having averaged 1,497,100 barrels daily the previous week.

While Texas was at a new high, in reflection of an increased share in the national production, United States output as a whole was short of the high levels of over 4,300,000 barrels daily reached in the weeks ended November 22 and December 20.

California production rose to 611,100 barrels a day in the week ended January 10 from 589,000 the previous week. Louisiana was up slightly to 361,800 from 360,450. Oklahoma declined to 411,450 from 419,400, Illinois to 381,600 from 388,150, and Kansas to 226,650 from 242,200.

Natural Gasoline Gain Not Up to Consumption

Production of natural gasoline and recycle condensate increased sharply in October, totaling 249,984,000 gallons for the month against 237,888,000 gallons in September, it is disclosed by the monthly report of the Bureau of Mines.

Daily average production increased from 7,930,000 to 8,064,000 gallons, it was stated, the principal increases occurring in the Appalachian, Illinois-Kentucky-Michigan, Panhandle and East Texas districts.

Despite higher output, stocks continued to decrease, dropping 21,000,000 gallons during the month, it was shown. Stocks at plants and terminals decreased from 130,368,000 to 117,852,000 gallons while those at refineries dropped from 95,298,000 to 86,688,000 gallons.

Crude Oil Production and Runs Meet Large Demand

The nation continues to produce and refine near-record volumes of crude oil, and thereby is keeping abreast of the unprecedented demand for petroleum products, without drawing as heretofore on crude stocks.

By virtue of the extraordinary activity at refineries, the heavy requirements for products are being met without any abnormal reactions on inventories in the storage tanks.

Gasoline stocks showed a normal seasonal increase during the week ended January 3 in rising about 1,850,000 bar-

United States Crude Oil Production Up Sharply

Estimates Compiled by The OIL WEEKLY

DISTRICT OR STATE	Recommendation of Petroleum Coordinator for January	State Allowable (Barrels Daily in January)	BARRELS DAILY FOR WEEK ENDED Jan. 3	Jan. 10
TEXAS:				
Texas Panhandle	.....	.....	88,500	91,500
North and West Central Texas	.....	.....	144,400	147,500
West Texas	.....	.....	293,100	344,300
East Central Texas	.....	.....	88,300	93,500
East Texas Field	.....	.....	369,200	437,700
South Texas	.....	.....	217,400	255,500
Texas Gulf Coast	.....	.....	296,200	345,200
Total Texas	1,573,500	[1]1,551,457	1,497,100	1,715,200
CALIFORNIA:				
Long Beach	.....	.....	37,700	38,100
Midway-Sunset	.....	.....	47,700	58,900
Kettleman Hills	.....	.....	30,100	27,100
Wilmington	.....	.....	80,300	85,800
Others	.....	.....	393,200	401,200
Total California	646,200	[2]646,200	589,000	611,100
OKLAHOMA:				
Oklahoma City	.....	.....	83,100	71,600
Seminole Area	.....	.....	110,100	112,100
Others	.....	.....	226,200	227,750
Total Oklahoma	415,700	425,000	419,400	411,450
ILLINOIS:				
Salem	.....	.....	67,500	66,900
Louden	.....	.....	57,600	57,750
Centralia	.....	.....	7,450	7,500
Other New Pools	.....	.....	243,900	237,700
Old Pools	.....	.....	11,700	11,750
Total Illinois	386,400	.....	388,150	381,600

DISTRICT OR STATE	Recommendation of Petroleum Coordinator for January	State Allowable (Barrels Daily in January)	BARRELS DAILY FOR WEEK ENDED Jan. 3	Jan. 10
LOUISIANA:				
North Louisiana	.....	.....	81,950	82,300
South Louisiana	.....	.....	278,500	279,500
Total Louisiana	329,300	[3]361,111	360,450	361,800
KANSAS	259,900	[4]256,900	242,200	226,650
NEW MEXICO	121,200	121,200	117,300	119,000
EASTERN STATES:				
Pennsylvania Grade	74,400	.....	73,200	67,150
Others, Eastern	21,400	.....	18,500	18,500
Total Eastern States	95,800	.....	91,700	85,650
MOUNTAIN STATES:				
Wyoming	78,600	.....	85,750	82,050
Montana	21,500	.....	22,300	22,400
Coloardo	5,900	.....	5,300	5,500
Total Mountain States	106,000	.....	113,350	109,950
MICHIGAN	47,400	[5]54,850	56,900	54,750
INDIANA	17,300	.....	19,850	20,350
ARKANSAS	73,700	[6]75,689	73,550	73,400
MISSISSIPPI	60,400	.....	71,950	75,600
NEBRASKA	5,600	.....	5,550	5,200
[7]Total 8 Prorated States	3,466,900	3,492,407	3,355,900	3,573,350
Total United States	4,138,400	.....	4,046,450	4,251,700

[1] Calculated daily average of actual production at beginning of month, allowing for underproduction of 3½ percent below net allowable, which was figured at 1,620,659 barrels daily as of January 1. However, allowable normally increases as new wells are completed, and consequently, actual daily average production for month may be expected to be slightly greater than average as calculated for January 1. Under January order, most Texas fields were ordered shut down January 4, 11, 15, 18, 25, 30 and 31.

[2] The District 5 Production Committee has named a Conservation Committee to distribute the California January quota of 646,200 barrels, as assigned by Petroleum Coordinator Ickes.

[3] Set before OPC recommendation made; this explains 31,811 barrel excess. Louisiana Conservation Committee will comply with OPC recommendation beginning February 1 (or on January 15 if OPC wishes).

[4] Order also will permit 3,000 barrels for new wells; total same as OPC estimate of demand.

[5] No definite state allowable fixed under prescribed regulations; figure shown here represents daily average production in four weeks ended December 27.

[6] Allowable for first quarter of year; actual production in January not expected to exceed Office of Petroleum Coordinator's figure of 73,700 barrels.

[7] Texas, California, Oklahoma, Louisiana, Kansas, New Mexico, Arkansas, Michigan.

rels, from 91,133,000 barrels (revised figure) to 92,987,000. The latter figure was approximately 7,852,000 barrels (9 percent) above the total of 85,134,000 reported for January 3 a year ago. There was a slightly larger addition of gasoline to storage (nearly 2,000,000 barrels) in the week ended January 3 last year.

Stocks of gas oil and distillate fuel were seasonally reduced about 800,000 barrels, having come down from 50,177,000 barrels on December 27 to 49,357,000 barrels on January 3. They remained well above a year previously, showing an increase of 6,399,000 barrels (15 percent) since January 3 of last year. The present inventories of the light fuel oils are well in line with the current increased market requirements.

Residual fuel oil stocks reacted favorably in showing a slight increase, from 95,819,000 barrels (revised figure) on December 27 to 95,857,000 barrels on January 3. The latter figure was, however, 5,191,000 barrels under the total stocks of the heavy fuel oils on hand January 3 a year ago (101,048,000 barrels).

Following the consistent withdrawals of crude oil from storage prior to the middle of November, there has been a substantial, gradual building up of crude stocks. They totaled 240,399,000 barrels November 15, the Bureau of Mines reported, and had been increased by December 27, 1941, to 243,990,000 barrels. The latter amount was, however, 17,562,000 barrels (6.7 percent) under the total of 261,552,000 barrels reported as of December 28, 1940.

West Coast Stock Drop Continued in November

During November inventories of all petroleum products in the Pacific Coast territory decreased 292,000 barrels to 141,872,000 barrels, final data compiled by the United States Bureau of Mines indicates.

Demand for all petroleum products in the area during November dropped 14,000 barrels daily to 690,000 barrels daily, while total supply remained unchanged at 701,000 barrels daily. During the first 11 months of 1941, total supply of all products increased 21,000 barrels daily and total demand increased 26,000 barrels daily over the same 1940 period. Stocks were reduced at the rate of 24,000 barrels daily during the first 11 months of the year, a gain of 5000 barrels daily in the rate of stock withdrawals over the average 1940 draft on stocks.

Demand for gas oil and Diesel oil was reported 12,000 barrels daily higher than in October at 68,000 barrels daily. Demand for residual fuel oil, however, averaged 13,000 barrels daily less than in the preceding month. Gasoline demand was well maintained, decreasing only 1000 barrels daily to 230,000 barrels daily. Asphalt and road oil requirements stood at 25,000 barrels daily, a decrease of 8000.

Trends of Operations and Changes in Stocks

Figures are from American Petroleum Institute weekly reports, which are estimates on Bureau of Mines' basis, except those on crude stocks, which are from Bureau of Mines weekly reports.

WEEK ENDED	Crude Oil Production (Barrels Daily)	Crude Runs to Stills (Barrels Daily)	Crude Oil Stocks (Barrels)	Gasoline Stocks (Barrels)	FUEL OIL STOCKS	
					Gas Oil & Dist. Fuels	Residual Fuel Oil
1939:						
April 22	3,526,700	3,280,000	277,156,000	[2]87,769,000	21,085,000	105,035,000
April 29	3,568,200	3,405,000	278,440,000	86,794,000	[7]25,844,000	[7]108,409,000
May 6	3,580,900	3,275,000	[2]278,607,000	86,216,000	26,167,000	108,597,000
August 5	[2]3,909,400	3,445,000	268,982,000	76,431,000	35,601,000	114,512,000
August 26	[5]1,690,800	3,475,000	246,982,000	73,475,000	37,722,000	116,237,000
October 7	3,435,850	3,505,000	231,564,000	[6]71,152,000	38,549,000	114,397,000
October 21	3,771,550	[2]3,650,000	[2]229,127,000	72,122,000	39,358,000	115,060,000
1940:						
January 27	3,611,600	3,470,000	237,339,000	87,914,000	27,407,000	103,015,000
February 24	3,732,100	3,490,000	240,836,000	96,719,000	25,390,000	103,419,000
March 30	3,841,250	3,585,000	250,561,000	101,370,000	23,778,000	105,081,000
April 20	3,858,550	3,535,000	254,881,000	[1]102,817,000	24,779,000	103,323,000
April 27	3,845,250	3,555,000	256,670,000	102,452,000	24,997,000	102,552,000
May 25	3,835,650	3,580,000	259,330,000	100,297,000	28,356,000	104,015,000
June 22	3,846,450	[2]3,690,000	260,891,000	97,276,000	32,751,000	104,683,000
June 29	3,639,550	3,625,000	262,059,000	95,142,000	33,590,000	104,486,000
July 27	3,690,400	3,555,000	262,579,000	90,173,000	38,981,000	105,924,000
August 31	3,501,350	3,575,000	265,865,000	85,393,000	44,766,000	108,774,000
September 28	3,799,950	3,600,000	263,609,000	82,273,000	47,986,000	108,450,000
October 26	3,640,300	3,565,000	262,746,000	80,891,000	48,893,000	108,475,000
November 9	3,584,200	3,510,000	261,631,000	[6]79,847,000	48,408,000	107,687,000
November 30	3,335,050	3,510,000	262,679,000	80,284,000	46,212,000	106,618,000
December 28	3,385,500	3,585,000	261,552,000	83,274,000	42,266,000	102,620,000
1941:						
January 25	3,599,100	3,625,000	260,093,000	88,762,000	39,039,000	100,297,000
February 22	3,629,650	3,590,000	261,783,000	95,812,000	34,381,000	98,631,000
March 29	3,746,550	3,625,000	266,187,000	[2]99,727,000	29,949,000	96,152,000
April 26	3,726,850	3,675,000	266,149,000	96,647,000	29,543,000	94,732,000
May 31	3,786,100	3,699,000	262,356,000	93,845,000	33,524,000	92,757,000
June 28	3,847,250	3,930,000	259,399,000	91,461,000	35,732,000	92,896,000
July 26	3,869,950	3,920,000	252,728,000	86,945,000	40,197,000	93,855,000
August 30	4,004,700	4,070,000	249,413,000	81,672,000	45,351,000	95,052,000
September 27	4,060,000	3,980,000	246,649,000	81,003,000	49,950,000	95,251,000
October 4	3,860,750	4,015,000	246,144,000	[8]80,870,000	49,553,000	96,016,000
October 18	4,110,550	[4]4,120,000	243,605,000	82,584,000	52,403,000	95,800,000
October 25	4,098,800	4,060,000	242,261,000	83,343,000	53,183,000	95,295,000
November 15	4,086,850	4,010,000	240,399,000	83,412,000	[2]54,983,000	95,993,000
November 22	[4]4,336,850	3,995,000	241,956,000	84,579,000	54,396,000	95,982,000
November 29	4,086,000	4,115,000	242,884,000	85,525,000	54,141,000	95,971,000
December 6	4,107,950	3,945,000	244,200,000	86,356,000	53,946,000	95,342,000
December 13	4,109,550	3,997,000	242,683,000	87,422,000	52,809,000	95,762,000
December 20	4,315,150	4,070,000	243,617,000	89,297,000	51,487,000	95,560,000
December 27	4,080,850	4,096,000	243,990,000	[*]91,133,000	[*]50,177,000	[*]95,819,000
January 3, 1942	4,038,000	3,961,000	.....	92,987,000	49,357,000	95,857,000
January 3, 1941	3,367,200	3,588,000	[4]261,552,000	85,134,000	42,958,000	101,048,000
Amount of change in past year	+670,800	+373,000	—17,562,000	+7,853,000	+6,399,000	—5,191,000
Percent change in past past year	+19.9	+10.3	—6.7	+9.2	+14.9	—5.1

[1] All time peak. [2] Peak for year. [3] Lowest since April, 1922. [4] Stocks, December 28, 1940.
[5] Lowest since October, 1922, due to shut down of six Mid-Continent states. [6] Lowest for year.
[7] Prior to April 29, 1939, data did not include stocks at terminals, in transit, etc., except in California.
[*] Revised.

Pipe Lines

Monroe-West Virginia Line Contingent Upon Materials

Hope Natural Gas Company will spend about $30,000,000 on a 772-mile, 20-inch pipe line from the Monroe, Louisiana, gas field to near Charleston, West Virginia, if materials are secured. If Construction begins early, completion of the project this year is anticipated. Materials would include 160,000 tons of pipe, and a preference rating has been sought from OPM.

The program was launched in view of heavy increases in demands for gas in the Appalachian region because of growing war industries. Hope Natural Gas Company, together with East Ohio Gas Company and Peoples Natural Gas Company, is part of an integrated system supplying natural gas to a region of heavy industry in Ohio, Pennsylvania and West Virginia. The proposed pipe line would handle 100,000,000 cubic feet per day at the start, and would materially augment local supplies to meet an anticipated annual demand of about 80,000,000,000 feet expected to be met by Hope Natural Gas Company.

The three mentioned companies have carried on for several years an intensified drilling program in the Appalachian gas region in proved and unproved localities, but the volume of new discoveries has not offset depletion. Construction of the pipe line to tap the fields of the Gulf Coast and at Monroe was decided upon in view of these circumstances.

Shell Building 85-Mile Line Into North Texas

Shell Pipe Line Corporation is unloading pipe at Henrietta and Archer City for immediate construction of an 85-mile combination 6- and 8-inch trunk line from Hapgood Station, southern Oklahoma, thence southwest to the New York City and Antelope pools, Clay County, Texas. The new line will parallel the company's West Texas-Middle West 10-inch trunk line, which is operating near capacity on sour crude. Shell's entrance into North Texas as a buyer of high-gravity crudes has been hastened by recent purchase of substantial producing properties by Shell Oil Company.

Texas Company Tanker First 1942 Launching

Reported as the first tanker launched in 1942, The Texas Company's 14,000-ton tanker Kentucky was launched January 5 in the yards of Sun Shipbuilding & Drydock Company at Chester, Pa. W. S. S. Rodgers, president, and other company officials were present. The tanker has a capacity of 100,000 barrels and speed of 16 knots. In the same shipyards two other tankers of similar class are under construction and three others are to be built.

U. S. FIELD OPERATIONS

Illinois

Spacing Rule Reduces State to 23 Starts

Only 23 first reports in week ended January 7 in wake of state's refusal to issue drilling permits pending clarification of federal regulations; Richland County wildcat shows water and small amount of oil after acid; another Richland County wildcat abandoned; Saline County wildcat ready to core McClosky.

Richland County: Benedum-Trees' L. J. Powell 1, E½ NW SE 10-3n-10e, a half mile south of Olney, drilling plug after squeeze job to test McClosky at 3145-57 ft; swabbed a quarter of a barrel natural but water rose 1500 ft following a 500-gallon acid treatment.

Olson Oil Co.'s Boyd 1, C W½ SW SW 10-3n-10e, a half mile southwest of Olney, dry in McClosky at 3345 ft.

Saline County: Seaboard Oil Co.'s Galbreath 1, C W½ NW SW 28-7s-5e, five miles east of the Thompsonville field, Franklin County, nearing McClosky at 3250 ft.

White County: Joe Dawson's H. L. Clark Estate 1, NW SW NE 36-5s-10e, just north of Maunie which has been testing for several weeks, swabbing some oil from McClosky at 3094 ft.

Hamilton County: Dave Ring's Craddock 1, NE SE NW 22-6s-5e, half mile west of production in Rural Hill pool, pumped 160 bbls of oil, 20 bbls of water from Aux Vases at 3188-3210 ft following a shot of nitro.

Jasper County: Jablonski's Fischer 1, C E½ SW SW 18-5n-14w, two miles southeast of new St. Marie pool, abandoned, through McClosky, total depth 3053 ft.

The Texas Co. has bought 40 acres in the south part of the Hoodville field, Hamilton County, as the site for a repressuring and gasoline plant to be constructed as soon as materials are available. A loading rack also is to be erected on the property.

There are 159 wells in the field, one of the first areas in the county to produce.

COMPLETIONS

Clay County—Pure s Pearce A1, s½ sw ne 10-2n-7e, McClosky 3033-3051 ft, td 3065 ft, 1500 bbls oil. Stanford 1, c n½ ne sw 10-2n-7e, McClosky 3059-3074 ft, td 3077 ft, 1655 bbls oil. A. H. Gibson et al's Harter 1, s½ sw nw 28-3n-7e, abnd 3085 ft.

Clinton County — Sistler & Strawser's Phoenix 4, ne nw sw 14-1n-1w, Beth. 1434-1441 ft, td 1441, 50 bbls oil. T. K. Degenther s Scott 1, nw nw nw 12-3n-4w, td 735 ft, abnd.

Coles County—Carter's Moore Heirs 1, nw nw se 2-13n-7e, abnd 1912 ft.

Fayette County—Carter's Wood 2, ne nw sw 36-9n-3e, abnd 1562 ft.

Franklin County—E. S. Adkins' Taylor 1, ne se sw 25-5s-2e, abnd 2864 ft. J. W. Menhall's Van Horn 1, s½ se se 30-6s-1e, abnd 2830 ft.

Gallatin County—Oil Management, Inc.'s Egyptian 10, se se se 16-8s-10e, Weil. 2386-2392 ft, 2398-2416½ ft, td 2417 ft, 48 bbls oil.

Jasper County—Joe Carroll's Ross 3, ne ne sw 8-6n-10e, abnd 2855 ft.

Jefferson County—Gulf's Comm.-Blankenship 3, sw nw sw 1-3s-1e, Beth. 1924-1953 ft, td 1953 ft, 266 bbls oil. Carter's Dobbs 3, sw se nw 10-1s-2e, Beth. 1960-1966 ft, td 1966 ft, 53 bbls oil. Magnolia's Kaminski 2, ne se se 2-3s-1e, Beth. 1947-1962 ft, td 1962 ft, 164 bbls oil. A. W. Gerson's Horton 1, se se nw 27-2s-2e, abnd 2837 ft.

Hamilton County—Reward Oil Co. et al's Anderson 3, nw sw sw 12-6s-5e, Aux Vases 3166-3190 ft, td 3204 ft, 210 bbls oil. Reward Oil Co.'s Anderson 4, ne sw sw 12-6s-5e, Aux Vases 3108-3126 ft, td 3250 ft, 125 bbls oil. Schoenfelt et al's Hamilton 5, se nw se 13-6s-5e, McClosky 3303-09, 3313-23 ft, td 3380 ft, 720 bbls oil. Shell's Braden Church Comm. 1, ne nw sw 13-6s-5e, Aux Vases sd 3149-3193 ft, O'Hara 3234-50 ft, 3273-80 ft, td 3393 ft, 425 bbls oil. Texas Co.'s Lockwood 7, ne sw se 13-6s-5e, Aux Vases 3134-50 ft, 3152-70 ft, L. O'Hara 3212-24 ft, McClos 3294-3324 ft, td 3380 ft, 1087 bbls oil. Schoenfelt et al's Hamilton 4, ne nw se 13-6s-5e, Aux Vases & McClos 3148-62 ft, 700 bbls oil. Kewanee's Culpepper 1, sw sw se 14-6s-5e, Aux Vases 3112-3134 ft, td 3134 ft, 85 bbls oil. Magnolia's Sloan 8, ne nw se 23-6s-5e, Aux Vases 3112-3134 ft, td 3134 ft, 85 bbls oil. W. C. McBride, Inc.'s Pennington 1, sw se se 12-6s-6e, Aux Vases 3059-3088 ft, td 3088 ft, 608 bbls oil.

Lawrence County—Wade & Brown's Clark 2, se se se 3-2n-12w, abnd 1030 ft. DeKalb Co.'s King 2, sw sw ne 8-2n-12w, abnd 2320 ft. Chet Evarts' Wye 1, nw nw ne 26-2n-12w, Biehl 1357-1396 ft, td 1396 ft, 250 bbls oil. Sinclair-Wyoming's All State 3, nw sw ne 22-2n-11w, Bethl. 1764-1772 ft, td 1772 ft, 190 bbls oil.

Perry County: Wildcat—Adkin's Pyramid Coal Co. 1, sw sw ne 10-6s-3w, abnd 1538 ft.

Richland County—Pure's Wakefield "A" 15, nw se sw 23-4n-9e, Weil 2578-2611 ft, td 2611 ft, 37 bbls oil. Joe Young s Biernaus b, w½ sw se 13-4n-11w, Bridgeport sd 739-742 ft, td 742 ft, 3000 gas. Seaboard's Wetzel 1, w½ ne se 13-2n-14w, abnd 3065 ft. Walter Duncan's Bierhaus 1, e½ nw nw 16-2n-14w, abnd 3206 ft.

Shelby County—Lakewood Oil Co.'s Hatten 1, ne ne ne 13-10n-2e, abnd 1699 ft.

Washington County—Reward Oil Co.'s Maschoff 3, nw ne sw 10-1s-1w, Beth. 1513-1522 ft, td 1522 ft, 32 bbls oil.

Wayne County—N. V. Duncan's Guthrie 1, n½ nw sw 35-1n-5e, abnd 3107 ft. Shell s Powless 1, w½ sw se 33-1n-6e, McClos 3163-87 ft, 3203- 3212 ft, td 3240 ft, 260 bbls oil. United Production Co.'s Cariens 6, e½ nw sw 35-1n-6e, Aux Vases 3003-19 ft, td 3022 ft, 289 bbls oil. Pure's Wells 2, s½ se nw 31-2n-8e, abnd 3072 ft. Texas' Peddicord 1, nw se ne 4-1s-6e, McClos 3176-3182 ft, td 3182 ft, 117 bbls oil. Jno. Russell s Doty 1, n½ nw sw 16-1s-6e, abnd 3187 ft. Bell Bros.' Fuhrer 4, e½ ne nw 33-1s-6e, Aux Vases 3018-3035 ft, td 3046 ft, 292 bbls oil. Pure's Fox A 2, 47 ft s of c w½ w½ nw 19-3s-8e, Aux Vases 3240-3259 ft, td 3259 ft, 74 bbls oil.

White County — Cherry, Kidd & Gray's Gray "M" 1, ne ne sw 30-3s-8e, Aux Vases sd 3190-3231 ft, td 3231 ft, 178 bbls oil. Tide Water s Evans 10, sw se nw 4-4s-14w, McClos 2853-58 ft, 2897-2900 ft, td 2931 ft, 128 bbls oil. A. H. Anderson's Leathers 1, se sw ne 12-4s-10e, McClos 3184-3201, Rosi 3108-15, td 3201 ft, 197 bbls oil. Skelly's Karch "A" 4, nw se ne 24-6s-10e, Palestine 2079-2097 ft, td 2098 ft, 71 bbls oil. Magnolia's Gen. American Life 1, sw sw sw 1-7s-8e, Walts sd 2178-96 ft, Pt Crk 2740-2749 ft, td 2765 ft, 280 bbls oil. Sinclair's Reddy 2, ne se se 2-7s-8e, Walts sd 2218-2230 ft, Beth. 2752-2780 ft, td 2947 ft, 310 bbls oil.

White County: Wildcat — W. C. McBride, Inc.'s Daly Trustee 1, n½ sw sw 7-4s-10e, McClos 3164-76 ft, discovery, td 3276 ft, initial production flow 1029 bbls oil.

OLD WELLS DEEPENED

Hamilton County—Kewanee's Culpepper 1, sw sw se 14-6s-5e, Aux Vases & McClos, otd 3148 ft, 3148-62 ft, td 3190 ft, 700 bbls oil.

White County—Superior Oil's Ford 12, sw sw se 4-5s-14w, otd 2724 ft, Bethel 2724-45 ft, td 2885 ft, 250 bbls oil.

WILDCAT STARTS

Edwards County—O. O. Huddleston's Brennan 1, s½ se sw 30-1s-11e, lcn.

Jefferson County—O'Mera Bros.' Simpkins 1, sw se ne 2-5s-2e, lcn.

Macoupin County—R .G. Whipple's Rhods 1, apx nw se sw 35-9n-8e, dr.

Richland County—Martin's Taylor 1, n½ nw nw 33-3n-9e, lcn.

Wayne County—Ira Showalter et al's Toppo 1, w½ nw sw 24-2n-5e, lcn.

Indiana

Mt. Vernon North Outpost Has Oil in Mansfield

A new pay and a half-mile north extension to the Mt. Vernon pool was indicated as Carter Oil Co. and Gulf Refining Co.'s Erwin 4, NE NW NE 1-7s-14w, swabbed 154 bbls oil and no water in 9 hours from Mansfield sand at 1274-1300 ft, first production from this pay in the Mt. Vernon area. Other production in that area is from the Waltersburg and Cypress.

Gibson County: A mile southeast of Owensville, casing will be set to test McClosky at a promising wildcat, Maner Graham's Thompson 1, C N½ SW SW 11-3s-12w. McClosky pay at 2539-44 ft tested 360 ft of oil in 30-min drill-stem test.

COMPLETIONS

Gibson County—R. D. Brown's Antell 2, e ½ ne se 20-1s-11w, McCl. 2266-68½ ft, td 2269½ ft, 93 bbls oil.

Harrison County—Harrison Develop. Corp.'s Gunther 1, ne nw ne 10-3s-4e, New Albany, 698-720 ft, td 720 ft, 70,000 gas.

Knox County: Wildcat—Bittles & McGinnis' Hayes 1, sw ne ne 20-1n-10w, abnd. td 1878 ft.

Newton County: Wildcat—National Petroleum Co.'s Bokma 1, ne ne nw 22-27n-8w, abnd, 1075 ft.

Pike County: Wildcat—Joe Dawson et al's Patberg 1, sw nw se 16-3s-7w, Cypress 1138-

Summary of Drilling Operations in the United States, Week Ended January 10, 1942

	WELLS COMPLETED						
	†Completions	Oil Wells	Gas Wells	Failures	†Miscellaneous	Total 1942	Total this Date 1941
Arkansas	4	4	....	....	....	4	6
California	28	26	1	1	....	40	47
Illinois	52	32	1	17	2	131	119
Indiana	9	6	1	2	....	19	14
Kansas	43	24	4	7	8	101	71
Kentucky	6	2	....	4	....	11	6
Louisiana	39	29	....	10	....	53	51
Michigan	11	9	1	1	....	37	31
Mississippi	....	....	....	....	....	....	7
Missouri	....	....	....	....	....	....	2
Montana	....	....	....	....	....	4	6
Nebraska	....	....	....	....	....	....	3
New Mexico	6	5	....	1	....	7	15
New York	....	....	....	....	....	35	16
Ohio	....	....	....	....	....	65	50
Oklahoma	31	15	3	9	4	81	81
Pennsylvania	....	....	....	....	....	8	132
Texas	221	150	7	52	12	337	235
West Virginia	....	....	....	....	....	35	29
Wyoming	....	....	....	....	....	1	4
Total this week	450	302	18	104	26	969	925
Total last week	519	297	68	118	36	519	415
Total this year	969	599	86	222	62	....	....

†‡Includes old wells deepened, water-intake, gas input, and salt water disposal wells.

1151 ft, td 1151 ft, initial prod pump 60 bbls oil.

Posey County—Continental's Kleiderer "A" 18, ne nw ne 33-3s-14w, Aux Vases 2783-2801 ft, td 2801 ft, 90 bbls oil. Sun's Hahn 1, sw se se 36-6s-12w, Walts. sd 1730-1740 ft, td 1740 ft, 50 bbls oil. Carter & Gulf's Maier C-76 2, c se ne sw 1-7s-14w, Walts. 1994-2021 ft, Cyp. 2492-2512 ft, td 2512 ft, 506 bbls oil. Sam C. Yingling's Reis 1-A, ne sw ne 1-7s-12w, Walts. 1723-29 ft, td 1732 ft, 5 bbls oil. Welborn 2-A, ne se ne 1-7s-12w, Walts. 1726-36 ft, 17 bbls oil.

WILDCAT STARTS

Posey County—R. B. Yost et al's Pfister 1, c n½ ne sw 23-4s-13w, lcn.

Vanderberg County—J. J. Deaner's Bixler 1, se ne nw 21-4s-11w, lcn.

Kentucky

COMPLETIONS

Hancock County—Mecca Oil Co.'s McDaniels 9, 13-O-33, abnd 551 ft.

Henderson County: Wildcat—Joe Minton et al's Sneed 1, 14-Q-20, abnd 2766 ft.

Ohio County—Batten & Vickers' Marlow 1 (6) 12-N-34, abnd 224 ft. Ellis Massey's Westerfield 4, 25-N-31, abnd 905 ft. Mosely 6, 25-N-31, Jet 822½-863 ft, td 863 ft, 18 bbls oil.

Union County—Smith & Toombs' Brown 1, 20-O-18, Mans. 1387-93 ft, td 1393 ft, 12 bbls oil.

Nebraska

Adverse Weather Holds Back Field Operations

Heavy snowfall hampers activity in Nebraska's principal oil areas; another well due in Barada pool; third producer for Dawson pool imminent.

Richardson County: Heavy and unusual snowfall held up operations in the Falls City pool entirely and slowed activity in other fields. Skelly Oil Co.'s Zimmerman 1, C W½ SE SW 36-3n-16e, topped Hunton lime at 2454 ft, drilled to 2508 ft with good saturation showing and set 7-in casing there, now waiting on cement to test. Operator's Mack 1, C W½ SE SE 25-3n-16e, drilling 1000 ft. Johnson and Short's Horn 1, C W½ NE SW 26-3n-16e, northwest outpost to pool, drilling 1060 ft.

Dawson Pool: A. H. Kruger et al's Klein 1, C E½ NE SE 9-1n-14e, showing for third producer of small Richardson County pool, well drilled to 2633 ft in Hunton lime with some saturation evident, set casing and was waiting.

Oklahoma

Creek County Wildcat Indicates Small Field

Creek County gets first new oil field for 1942; two extensions for Apache field and one new start; Bartlesville sand producer extends Guthrie field.

Creek County: D. B. Malernee's Rowntree 1, SW NW SW 2-14n-7e, south of the Big Pond district and east of Stroud, drilled to 3127 ft in Bartlesville sand topped at 3117 ft, had open hole to bottom from 2600 ft where it previously tested a rainbow show of oil in Prue sand, drilled in to Bartlesville with cable tools, blew in through open 8-in, spraying estimated 250 bbls oil daily with 12,000,000 cu ft of gas, operator to kill flow and run 6-in casing to test, opens small new field circumvented by dry holes.

Caddo County: The Texas Co.'s Smith 6, SW NW NW 2-5n-12w, extended Apache field location west, well drilled into Wilcox sand to 3570 ft, top unreported, flowed 400.35 bbls oil in first hr through casing, 600 lbs pressure, then averaged 183 bbls hourly in next 3-hr test, on 1-in tubing choke. Operator's Smith 7, SW SW NW Sec. 2, extends field to southwest, topped sand 3485 ft, drilled to 3605 ft, flowed 295 bbls oil first hr through open casing, then did 147 bbls per hr on 2-hr test through 1-in choke. Operator's Nannie Smith 1, NE NE NE Sec. 3, extreme west flank of field, spudded and shutdown awaiting rule on spacing exception. Operator's Smith 8, SW NE NW Sec. 2, topped sand 3575 ft, set 7-in, now below 3600 ft in sand, due to complete as eastern extension.

Logan County: Continental's Suits 4, SW SW NW 7-17-1w, extends Guthrie field location northwest, well drilled to 5117 ft in Bartlesville sand, flowed 281 bbls in 24 hrs through open 8-in casing.

COMPLETIONS

Caddo County: Apache—Texas Co.'s Mulkehay 2, ne nw se 2-5n-12w, Wilcox 3581 ft, td 3791 ft, pay 3661 ft, flow 30 bbls oil per hr, potential 720 bbls oil.

Caddo County: Cement—English Drig's Vann 1, sw c nw 4-5n-9w, Culp sand 6113-38 ft, td 6978 ft, perf casing shot with 25 qts, est 3,000,000 gas, shut in.

Carter County: Hewitt (West)—Gibson & Jennings' Walker Vorhees 8, sw c ne ne 20-4s-2w, sand 2284-2317 ft, td 2341 ft, pump 70 bbls oil.

Creek County: South Bristow—L. S. Youngblood's Moore 1, sw se sw 7-15n-9e, Wilcox 3677 ft, td 3682 ft, dry.

Grady County: Knox—W. K. Jones et al's Woods 1, sw ne sw 8-3n-5w, sand 2055-60 ft, td 2370 ft, pb 1362 ft, shot 20 qts, rip csg, dry.

Hughes County: East Wewoka—Potco's Morris 2, sw ne sw 13-9n-10e, Viola 3932 ft, td 3937 ft, perf 27 holes 2000 gals acid, flowed 200 bbls oil.

Jefferson County: Wildcat—Seitz, Comegys, Seitz's Barrett 2, se se se 14-6s-6w, sand 1805-15 ft, show oil, td 1815 ft, completed 25 bbls oil, 2 bbls water.

Lincoln County: Laffoon—Mid-Continent's Wagner 3, c nw nw 10-13n-6e, Hunton 4059 ft, pay 4067½-85 ft, pay 4059-67½ ft, td 4085 ft, 2000 gals acid, 13,200,000 gas, 850 lbs rock pressure.

Lincoln County: North Davenport—Blackwell's Dollison 1, nw nw nw 33-15n-5e, Wilcox 4578 ft, td 4578 ft, dry.

McIntosh County: Wildcat—Phillips' McBey 1, c w½ se ne 1-10n-13e, Wilcox 3764 ft, td 3830 ft, dry.

Okfuskee County: Cromwell (East)—Shell's Hicks 5, se c sw ne 35-11n-8e, Cromwell 3406 ft, td 3426 ft, pump 114 bbls oil.

Oklahoma County: Oklahoma City—British American's Hatfield 1, sw c se nw 10-11n-3w, Wilcox 6369 ft, td 6469 ft, pump 155 bbls oil. Shilling's 2, se c ne sw 10-11n-3w, Wilcox 6354 ft, td 6519 ft, shot 160 qts, pump 279 bbls oil.

Okmulgee County: Okmulgee—J. J. Deaner's McKee 2, ne se ne 17-14n-11e, Dutcher 2355-60 ft, 2nd Dutcher 2404 ft, td 2430 ft, shot 10 qts, pump 70 bbls oil.

Payne County: Rattlesnake—E. R. Robon's Barker 1, sw se nw 13-18n-3e, Wilcox 4068 ft, 2nd Wilcox 4097 ft, td 4099 ft, flow 160 bbls oil and 12 bbls water.

Pottawatomie County: South Konawa—Culver & Shephard's Chastain 1, ne nw ne se 9-5n-5e, Hunton 2311 ft, td 2478 ft, flowed 3000 bbls oil.

Pottawatomie County: St. Louis—Mid-Continent's Weld 1, sw se sw 22-8n-4e, Hunton 3932 ft, td 3964 ft, acidized 5000 gals, flow 270 bbls oil. J. F. Smith's Bodkin 1, sw se sw 26-8n-4e, Hunton 3905 ft, td 3945 ft, show of gas, abnd. Amerada's Petters A 4, sw sw nw 27-8n-4e, chert 3880 ft, td 3938 ft, 3000 gals acid, flowed 1122 bbls oil.

Pottawatomie County: Wildcat—Villines & Smith's Stalmaker 1, se ne sw 24-8n-4e, Hunton 4151 ft, td 4495 ft, pb 4220 ft, acid 6000 gal, perf casing, est 10 bbls oil.

Pottawatomie County: West Hotulke—Sunray's Galbreth 1, sw sw sw 23-9n-4e, 2nd Wilcox 4528 ft, td 4551 ft, perf casing pump 185 bbls oil and 130 bbls water.

Stephens County: Velma—Geo. Hollingsworth's Fee 1A, se sw se 36-1s-5w, sand 763-68 ft, td 778 ft, shot 10 qts, pumped 35 bbls oil. Magnolia's Fee 2, c sw ne se 36-1s-5w, sand 778-830 ft, td 1065 ft, dry. Skelly's Doak 2, se ne nw 36-1s-5w, sand 373-88 ft, sand 325-45 ft, td 450 ft, pb 388 ft, 1,000,000 gas, 50 lbs rock pressure; Martin 9, c ne nw nw 36-1s-5w, sand 784-811 ft, td 811 ft, shot with 15 qts, pumped 34 bbls oil.

Stephens County: Rainola—L. Sikes' Blake 6, ne c nw nw 16-1s-8w, abnd 2626 ft. Mudge's Broadben 12, se ne sw nw 1-2s-5w, sand 702-20 ft, td 720 ft, pumped 6 bbls oil.

Stephens County: Comanche—H. F. Schiff's Godfrey 1, ne nw ne nw 11-2s-8w, sand 2120-29 ft, td 2450 ft, dry. Geo. Pace's McMasters "B" 3, se c ne 13-2s-8w, sand 1475-82 ft, td 2000 ft, dry.

OLD WELLS DEEPENED

Kiowa County: Wildcat—H. J. Sherman's Watkins 1, sw sw nw 20-7n-17w, otd 1100 ft, td 1201 ft, pb 1174 ft, acid 1000 gals, 50,000 gas.

Okmulgee County: Okmulgee—Pure's Perryman 3, n½ ne sw 14-13n-12e, otd 1368 ft, sand 1420 ft, td 1420 ft, pumped 3 bbls oil 5 bbls water in 1 hr, potential 120 bbls oil.

Okmulgee County: Beggs—Powers & Quinlan's Adams 7, ne sw nw ne 8-14n-12e, otd 2199 ft, Wilcox 2780 ft, td 2790 ft, dry.

Pottawatomie County: St. Louis—Reda Pump's Youngblood 1, se se nw 16-7n-4e, otd 4131 ft, td 4158 ft, Simpson 4126-31 ft, 4000 gals acid, pump 724 bbls oil & 1800 bbls water.

WILDCAT STARTS

Cleveland County—Phillips' Heenan 1, se ne se 6-8n-1e, lcn.

Hughes County—Paul J. McIntyre's Thomason 1, ne sw ne 7-9n-11e, dr.

Lincoln County—Wilcox Oil & Gas' Loy 1, nw se nw 7-14n-6e, lcn. J. E. Trigg et al's Cook 1, se sw sw 22-14n-5e, dr.

Oklahoma County—Continental et al's Boling 1, nw nw sw 18-14n-3w, dr.

Kansas

Reno and Rice Counties Have New Pool Indications

New pool for Reno County and another for Rice County vie for honors as the state's first discovery of 1942; Stanolind to deepen gas discovery in Pawnee County; half-mile extension for Kraft-Prusa pool apparent.

Reno County: Cities Service Oil Co.'s Morton 1, SWc NE 17-14s-8w, 4 mi west of Abbeyville pool, topped Kansas City-Lansing lime 3443 ft, tested saturation to 3446 ft, now bailing down to test, may open new area.

Rice County: Luther Mackall's Beaman 1, C W½ NW NE 33-20s-10w, 2½ mi south of Raymond pool, perforated Kansas City-Lansing lime 3062-71 ft, acidized 1000 gals, now swabbing 1 bbl oil per hr and wash water, to rip casing and reacidize with 5000 gals.

Pawnee County: Stanolind Oil & Gas Co.'s Smith 1, C N½ SE SE 16-23s-16w, 8½ mi northwest of Macksville pool of Stafford County, drilled to 4113 ft in Arbuckle dolomite, perforated, acidized with 1000 gals, now making estimated 1,152,000 cu ft gas daily, operator plans to deepen, opens new area.

Barton County: Texon Oil & Gas Co.'s Esfeld 1, C SL SE SW 20-16s-11w, apparently has extended Kraft-Prusa field ½ mi to the northeast, drilled to 3302 ft in Arbuckle dolomite topped at 3298 ft, set 7-in 3299 ft, drilled plug, hole filled 2700 ft of oil in 1 hr, operator deepened 3 ft, now taking temporary swab potential.

COMPLETIONS

Barton County: Un-named—Bay Pet.'s Riemann 2, se nw se 22-16s-12w, Gorham 3363 ft, td 3376 ft, pumped 70 bbls oil.

Barton County: Ainsworth—Skelly's Michaelis 1, ne ne ne 30-16s-13w, Arbuckle 3384 ft, td 3386 ft, filled 2600 ft oil in 16 hrs, 1050 gals acid, echo, potential 2843 bbls oil.

Barton County: Trapp—Shell's Ehrlich B 9, c w½ w½ sw 1-16s-14w, Arbuckle 3270 ft, td 3282 ft, 9000 gals acid, swabbed 647 bbls oil in 15 hrs, potential 1272 bbls oil.

Barton County: West Kraft—Skelly's Schneweis 2, c n½ nw sw 5-17s-11w, Arbuckle 3361 ft, td 3368 ft, 1000 gals acid, pumped 260 bbls oil.

Barton County: Kraft—Lauck-Moncrief's Rieman 1, nw nw sw 10-17s-11w, Arbuckle 3294 ft, pay 3314-3315 ft, td 3315 ft, 2500 gals acid, pumped 402 bbls oil.

Barton County: Rick—Shell's Raeder 2, sw ne ne 11-19s-11w, Lansing 3026 ft, td 3347 ft, pb to 3147 ft, perf 1,836,000 gas est, 1060 lbs rock pressure.

Barton County: Silica—Alpine & Simpson's Petz 2, c w½ nw se 7-20s-11w, Arbuckle 3314

ft, td 3318 ft, filled 3000 ft oil 24 hrs, 3000 bbls oil.

Barton County: Un-named — Helmerich & Payne's Smith 1, c w½ nw sw 17-20s-15w, Arbuckle 3797 ft, td 3842 ft, perf, 2000 gals acid, pump & flow 284 bbls oil.

Butler County: Burgess — Adair-Morton's Sawyer B 3, ne ne sw 10-28s-7e, Miss. lime 2734 ft, td 2754 ft, 500 gals acid, pumped 281 bbls oil.

Butler County: Ferrell—Table Mesa's Ferrell 8, nw se ne nw 28-28s-8e, Miss. lime 2728 ft, td 2780 ft, 2000 gals acid, pumped 20 bbls oil.

Ellsworth County: Edwards—Continental's Buehler 8, se nw nw ne 33-17s-8w, Arbuckle 3190 ft, td 3223 ft, 3000 gals acid, swabbed 181 bbls oil in 5 hrs, potential 3000 bbls oil.

Graham County: Morrel — Cities Service's Morrel 1, 30 ft s of e½ e½ ne 22-9s-21w, Arbuckle 3374 ft, td 3777 ft, filled 2950 ft oil in 45 min, potential 3000 bbls oil.

Greenwood County: Wildcats—F. A. Gillespie & Sons' Curry 1, nw nw ne 5-22s-11e, Bartlesv. 1826 ft, good show oil 1834-36 ft, bailed some oil, 2 bbls water 1875-80 ft, pb 1869 ft, abnd. Roy Sharplis' Forbes 1, 20 ft w of sw nw nw 20-27s-11e, Miss. lime 2025 ft, td 2055 ft, hole full water, abnd.

Jefferson County: McLouth—O. J. Connell's Edmonds 1, c sw ne 21-9s-20e, top sand 1465 ft, td 1480 ft, pb 1470 ft, test 2,300,000 cu ft, gas and rock pressure 510 lbs. Ray Anderson's Costigan 1, c ne nw 29-9s-20e, top sand 1416 ft, td 1435 ft, test 14,300,000 gas. Hatcher & Fisk's Kimmel 3, c se nw 5-10s-20e, top sand 1518 ft, td 1537 ft, test 13,686,000 gas.

Leavenworth County: McLouth—McLaughlin et al's Wilkins 1, c sw ne 15-10s-20e, Miss. 1460 ft, td 1575 ft, hole full water, abnd.

Marion County: Lost Springs—Ring Mac's Jarik 1, c w½ nw nw 4-18s-4e, Miss. lime 2406 ft, td 2427 ft, pay 2425-2427 ft, pumped 450 bbls oil.

Marion County: Wildcat—Rex & Morris' Bina 1, c n½ nw se 18-18s-4e, Miss. 2415 ft, td 2940 ft, salt water, abnd.

Norton County: Wildcat — Cities Service's Muir 1, sw sw nw 34-5s-21w, Anhy. 1860 ft, Harrington 2430 ft, Ft. Riley 2530 ft, Neva 2750 ft, Topeka 3216 ft, Lansing 3438 ft, Arbuckle 3697 ft, Granite 3787-88 ft, abnd.

Phillips County: Ray—Cities Service's Johnson "B" 5, sw nw sw 32-5s-20w, Reagan 3565 ft, td 3358 ft, filled with 2500 ft oil in 12 hrs, potential 1834 bbls oil.

Pratt County: Wildcat—Nadel & Gussman et al's White 1, c w½ nw ne 5-27s-11w, Anhy. 865 ft, Topeka 3088 ft, Lansing 3637 ft, Miss. 4086 ft, Viola 4277 ft, Simpson shale 4375 ft, Simpson sand 4397 ft, Arb. 4464-4510 ft, abnd.

Reno County: Wildcat—Central Pet. & Iron Drlg.'s Hendrickson 1, c w½ nw ne 2-23s-10w, Viola 3685 ft, pay 3736-3742 ft, td 3744 ft, 2000 gals butane, 1000 gals acid, pumped 217 bbls oil, grav 36 at 60°.

Reno County: Peace Creek—Magnolia's Yust 2, ne sw sw 15-23s-10w, Viola 3768 ft, td 3784 ft, filled 3100 ft oil in 8 hrs, potential 3000 bbls oil.

Reno County: Zenith—Landon et al's Union Central 7, c e½ se sw 7-24s-10w, Viola 3736 ft, td 3748 ft, 3000 gals acid, flowed 118 bbls oil 1½ hrs, potential 3000 bbls oil.

Rice County: Chase — McPherson Drlg.'s Patton "A" 2, nw sw se 9-19s-9w, Arbuckle 3230-3233 ft, td 3233 ft, 500 gals acid, pumped 726 bbls oil.

Rooks County: Laton—Vickers & Cities Service's Reece 1, c e½ sw se 3-9s-16w, Lansing 3107 ft, td 3185 ft, pay 3141-3147 ft, 5000 gals acid pumped 465 bbls oil.

Russell County: Hall-Gurney — Coralena's Hefferman 2, se se sw 34-14s-13w, Lansing 2890 ft, td 2985 ft, 2000 gals acid, pumped 48 bbls oil.

Russell County: Vaughn—Cities Service's Vaughn 3, nw sw sw 17-14s-14w, Lansing 3008 ft, td 3100 ft, 8000 gals acid, potential 3000 bbls oil.

Russell County: Gurney — Hartman & Blain's Gurney C 1, se nw se 23-14s-14w, Lansing 2940 ft, td 3248 ft, pb 3197 ft, rip casing, acid 3000 gals, swab 58 bbls oil.

Russell County: Greenvale—Philhan's Sounup 2 c n p nw sw 3-15s-12w, top Gorham 3220 ft, td 3242 ft, pumped 856 bbls oil.

Russell County: Coralena—Coralena's Holland 3, c s½ sw nw 16-15s-13w, td 3121 ft, 6000 gals acid, pump 58 bbls oil.

Sedgwick County: Wildcat—I. W. Murfin et al's Gsell 1, sw sw se 33-26s-2e, Arbuckle 3360 ft, td 3362 ft, hole full water, abnd.

Stafford County: Beford—Cities Service's Knoche 3, se ne se 28-23s-12w, Arbuckle 3827 ft, td 3846 ft, 3450 ft, oil in 11 hrs, potential 3650 bbls oil.

Woodson County: Wildcat — Kilby Bros.' State Exchange Bank 1, sw sw ne 35-23s-15e, Miss. 1485-99 ft, td 1534 ft, hole full water, abnd.

OLD WELLS DEEPENED

Cowley County: Winfield—Looney et al's Cook 1, se sw se 13-32s-4e, otd 2355 ft, Bartlesville 3005 ft, td 3034 ft, shot with 48 qts, pumped 30 bbls oil.

McPherson County: Bornholdt — Sunray's Lindquist 3, c e½ ne nw 29-20s-5w, otd 3384 ft, Arbuckle 3858 ft, td 4277 ft, salt water disposal well.

Pratt County: Cunningham—Drillers Gas' Bowers 1, c s½ ne ne 2-28s-11w, otd 4217, Lansing 3525 ft, td 4232 ft, 2000 gals acid, pumped 20 bbls oil 20 bbls water.

Russell County: Unknown — Texas Co.'s Dumler 2A, ne nw se 1-14s-15w, otd 3110 ft, Gorham Sand 3302 ft, td 3305 ft, 434 bbls oil.

Russell County: Fairport—Snowden & McSweeney's Booth 4, nw ne sw 32-11s-15w, otd 2908 ft, Lansing 2876 ft, pay 2902-2906 ft, pay 2957-2962 ft, pay 3096-3099 ft, td 3191 ft, 4000 gals acid, pumped 125 bbls oil.

Russell County: Vaughn—Cities Service's Vaughn 4, sw nw sw 17-14s-14w, otd 3065 ft, Lansing 3026 ft, pay 3104-3107 ft, td 3110 ft, 4200 gals acid, potential 1493 bbls oil & 107 bbls water.

Russell County: Hall-Gurney—Skelly's Carter 2, c n½ ne nw 33-14s-13w, otd 2950 ft, Arbuckle 3116 ft, td 3128 ft, swabbed water, abnd.

Russell County: Big Creek—Phillips' Hall 1, se ne sw 36-14s-15w, otd 3118 ft, Lansing 3118 ft, pay 3223 ft, pumped 51 bbls oil and 7% water.

WILDCAT STARTS

Barton County—Helmerick & Payne's Kent Est 1, c s½ sw ne 31-18s-13w, woc.

Greenwood County—LeBlanc's Shell 1, nw nw se 29-27s-12e, rum.

Morris County—Frank Bros.' Crocker 1, c nw nw 7-15s-7e, shut down 2440 ft.

Pratt County—Falcon-Seaboard et al's Lemon 1, nw ne nw 32-27s-14w, rr.

Reno County—Luther Mackall's Frederick 1, sw sw ne 4-26s-5w, mim.

Rice County—Nelson Drlg.'s Smyres 1, ne ne sw 36-19s-6w, sur hole.

Russell County—Aladdin Pet. et al's Maier 1, se se se 7-15s-14w, rig.

New Mexico

Prolific Shallow Gasser On Maljamar North Edge

Lea County wildcat to set pipe after preliminary test indicates small oil yield. North edge Maljamar field accounts for prolific shallow gasser, and south extension area has shallow oiler.

Wildcat: Phillips Petroleum Co.'s State-Philmex 1, C NW NW 28-17s-33e, 3 miles east of Maljamar field, yielded 210 ft oil- and gas-cut mud on drill-stem test at 4549-92 ft, elevation 4189 ft. Possibilities of small oil producer further substantiated when formation acidized by stages with 200 gals and 1000 gals, with tubing packer 4549 ft, resulting in 8 bbls oil, plus acid residue, on 6-hour swabbing test. Operations halted to run pipe to try for completion. Richmond et al's State-Shell 1, recent failure 1 mile northeast, almost qualified as commercial pumper from same zone.

Lea County: W. J. Rutledge Jr. et al's State-Texaco 4-0, C SE NW 16-17s-32e, offsetting failure on north edge Maljamar field, gauged 17,500,000 ft sweet gas open casing after 50-quart nitro shot 3140-60 ft. Hole plugged back from 3762 ft after missing regular oil zones, elevation 4065 ft. Rutledge et al's Pearsall 1-A-a, C NW SW 33-17s-32e, two locations west of 4643-foot failure, flowed 64 bbl oil 12 hours through ⅜-inch tubing choke, shot 60 quarts nitro 3445-60 ft, total depth 3490 ft.

Continental Oil Co. et al's Brooks 2-A-7, northeast edge of Salt Lake pool, awaiting test of broken pay 3020-40 ft and 3050-60 ft, total depth 3075 ft.

COMPLETIONS

Eddy County—Brainard & Guy's State 1, nw ne ne 2-19s-27e, abnd 512 ft. Premier Pet. Co.'s Beeson 9-F, sec sw 29-17s-30e, flowed 43 bbls 5/16-in, shot 3039-69 ft. M. L. Roberts et al's State 1, ne sw nw 2-18s-27e, pumped 10 bbls, acidized 414-442 ft. Sanders Bros. et al's Evans 1, c sw ne 4-17s-30e, flowed 58 bbls 2-in tub, 100 qts 2878-2928 ft, td 2975 ft.

Lea County: Arrowhead—Repollo's Brownlee 2, swc 25-21s-36e, flowed 1226 bbls 2-in tub, 1500 gals acid 3750-3815 ft.

Lea County: Hobbs—Shell's State 1-F, c e½ ne ne 23-18s-37e, pumped 45 bbls, plus water, acidized 6000 gals, San Andres 4096-4122 ft, td 4150 ft.

WILDCAT START

Lea County—Richmond Drlg. Co. et al's State 1, c ne se 5-16s-38e, rur.

West Texas

Andrews County Wildcat Has Oil From Clear Fork

Andrews County wildcat develops oil flow on drill-stem test in Clear Fork section of Permian. Prospects in Yoakum and Ector Counties showing for marginal pumpers. Crane County yields pair big wells. Operators revising footage on scheduled operations so as to abide by OPM's 40-acre spacing requirements.

Andrews County: Fullerton Oil Co.'s Wilson 1, NE SW SE PSL Sec. 15, Blk. A-32, situated within group of wildcat failures in regular Permian zones, flowed at rate of 30 to 40 bbls 37.6 gravity oil hourly during last 10 minutes of 45-minute drill-stem test at 7222-7324 ft., then tested 580 feet of gas-cut drilling fluid when deepened to 7392 ft. with tool at 7324 ft. Drilling was underway at 7450 ft., and the 8000-foot depth contract may be fulfilled. The oil flow is from Clear Fork zone of lower middle Permian, which has accounted for two wells in Gaines County sector of Wasson field, a single wildcat in Lubbock County. Wilson 1 entered Yates section at 2880 ft., and top of San Andres lime 4470 ft., elevation 3382 ft.

Clear Fork: Exploration of the Clear Fork zone in the north portion of the Permian Basin has been accelerated considerably since completion of a small pumper in Lubbock County. Two new wildcats due to start this month include Stanolind's Stennett 1, southwest corner Labor 18, League 4, San Augustine County School Lands, east central Lubbock County and 6 miles southeast of discovery, and Tobe Foster et al's Holman 1, southwest corner Section 12, Block B, 3 miles south of Lubbock discovery. George Livemore's Moxley 1, southwest corner of county, drilling 2350 ft., topped anhydrite 2060 ft., elevation 3302 ft.

In Hockley County, Stanolind's Williams 1, 20 miles northeast of Slaughter field, was drilling dry lime 6020 ft., and Tide Water Associated Oil Co.'s Commerce Trust 1, 3 miles northeast same field, was drilling lime 4820 ft., both having Clear Fork as objective after proving dry in regular Permian. Top of San Andres lime logged at subsea depths of 146 ft. and 697 ft., respectively.

Wildcat Prospects: Sinclair Prairie's Kleiner 1, 3½ miles northwest Ownby sector of Waples-Platter pool, Yoakum County, swabbed 8 bbls. oil and 6 bbls. water 13 hours after recovering acid used in treating broken pay 5410-50 ft. with 10,000 gallons, elevation 3630 ft. Original hole lost at 5600 ft. and redrilled below 5436 ft. Dunigan Bros. and Brahaney's Henard 1, C NE NE Sec. 367, Block D, Yoakum County wildcat, drilling dry lime 4785 ft., topped Yates 3120 ft., elevation 3693 ft. In Ector County, Oil Well Drilling Co.'s Johnson-Shell 1, between Goldsmith and Harper fields, yielded 15 bbls. fluid, including 80 percent oil, on 8-hour swabbing test, shot 40 quarts nitro 4275-4353 ft., plugged back from 4510 ft. Pure's T. P. Land Trust 1-A, extreme western Pecos County, fulfilled depth contract at 6001 ft. in Delaware sandstone, then plugged back to 5400 ft. to resume

testing favorable show oil in Delaware sand, topped 5282 ft.

Crane County: Gulf recorded two prolific wells with the aid of acid in the Gulf-Waddell sector of its 31,146-acre Waddell lease. Its Waddell 49 rated at 10,520 bbls. 35-gravity initial after using 5000 gallons acid in thin pay zone at 3497-99 ft., and Waddell 50 responded to same acid treatment at 3500 ft. for potential 10,381 bbls. 35.7-gravity oil, gas-oil ratio 310/1.

Slaughter Field: Development simmering down to comparatively few operating units that are maintaining their drilling program without apparent shortage of tubular goods. This tri-county field has been largest contributor of new wells and flush production in nation for months. The Texas Co., largest owner of proved acreage, currently has 12 tests in process of completion, rotary rigs in service at 20 sites and 10 active locations. This company's Slaughter 82, mile southeast of its Hockley County discovery, was largest of its 6 completions, flowed rate 2037 bbls. initial after acidizing at 4900-5025 ft. Texas Co.'s allowable production is being exchanged at Midland with Gulf in return for equal volume Crane-Upton crude.

Pecos County: Gulf and Wentz's Millar 2, Ellenberger discovery, boosted its flow to 384 bbls. of 34-gravity oil open tubing after re-treating Ellenberger 4307-83 ft. with 8000 gallons, and will be deepened. M. D. Bryant et al are latest to undertake deep development along this newly established Ordovician trend with the starting of McDonald 1, SW NW NE H&GN Sec. 46, Blk. 12, being twin to Rowan & Tong Shallow pool discovery. Bryant et al assumed development obligations in purchasing the 5300-acre supporting block last November for bonus $1 per acre.

COMPLETIONS

Andrews County: Emma—Burma Pet. Co.'s University 1, swc sw sec 43, blk 9. flowed 1276 bbls natural, 2-in. lime 4200-70 ft.

Cochran County: Slaughter — Anderson-Prichard Oil Corp.'s Neal 9, league 57, Refugio CSL, flowed 596 bbls cas, acidized 11,200 gals, 4909-58 ft. Atlantic's Boyd-Humble 33, sec lab 10, leag 56, Oldham CSL, flowed 1403 bbls 2-in, acidized 10,000 gals, 4950-5063 ft; Boyd-Humble 34, sec lab 11, flowed 1816 bbls 2-in, acidized 10,000 gals, 4955-5055 ft. Honolulu Oil Corp.'s Dean 1, sec leag 58, Martin CSL, flowed 1305 bbls 2-in, acidized 10,000 gals, 4960-5037 ft; Igoe-Smith 19, nec lab 13, leag 56, Oldham CSL, flowed 1110 bbls cas, acidized 10,000 gals, 4998-5044 ft; Igoe-Smith 27, near c lab 17, leag 56, flowed 1142 bbls 2-in, acidized 10,000 gals, 5016-49 ft. Geo. P. Livermore's Boyd-Texaco 17, 510 ft from n and 1810 ft from e of E-2/3 of 769-ac tr, Leag 53, Oldham CSL, flowed 582 bbls cas, acidized 10,000 gals, 5011-72 ft. Magnolia's Woodley 21, nwc lab 6, leag 57, flowed 870 bbls cas, acidized 10,000 gals. td 5006 ft.

Concho County: Wildcat—Floyd Dodson et al's Wilson 1, 425 ft from n and 1250 ft from w lines sec 1, Thos. Green sur, elev 2300 ft, top Strawn 3171 ft, pumped 5 bbls 45.8-gr oil, acidized 5000 gals, basal Strawn 3756-68 ft, pb from 4102 ft.

Crane County: Church-Fields—R. A. Barger et al's University-Humble 3-E, nec sec 40, blk 30, pumped 223 bbls, shot 400 qts lime 2935-3087 ft.

Crane County: Gulf-Waddell—Gulf's Waddell 49, ne sw sw PSL sec 11, blk B-23, flowed rate 10,520 bbls open, acidized 5000 gals, 3497,3499 ft; Waddell 50, sw ne nw PSL sec 14, blk B-22, flowed rate 10,381 bbls, acidized 5000 gals. td 3500 ft.

Crane County: Sand Hills Ellenberger—Gulf's Waddell 32, c n¼ of s¼ H&TC sec 18, blk 6, flowed 629 bbls, acidized 5000 gals, Ellenberger 5599-5656 ft.

Crockett County: Soma-Noelke—M. & M. Production Co.'s Bouscaren 1, nec n½ s½ TCRy sec 57, blk GG. 10,000,000 ft gas natural cas, sand 1459-75 ft. Silas Pittman and Geo. Atkins' Noelke 2-A, ne nw ne HE&WT sec 30, blk GG, flowed 1118 bbls natural 2-in, sand 1484-1512 ft.

Crockett County: World-Powell — Garrett Smith et al's Powell 3-C, nec se BS&F sec 7, blk A, pumped 192 bbls, acidized 500 gals, 2645-51 ft.

Ector County: Foster — Geo. Livermore's Johnson-Ohio 2-45, ne se ne T&P sec 45, blk 43, T-1-S, flowed 442 bbls, shot 295 qts 4042-4150 ft. Texas Co.'s Johnson 4-A, nw sw nw T&P sec 46, blk 43, T-1-S, pumped 488 bbls, shot 235 qts 4030-4160 ft.

Ector County: Goldsmith — Gulf's Goldsmith 379, sw nw sw T&P sec 20, blk 44, T-1-S, flowed 1144 bbls, acidized 4000 gals, td 4281 ft.

Ector County: North Cowden—Stanolind-M. J. Delaney's Smith 4-C, nwc ne T&P sec 7, blk 42, T-1-S, pumped 242 bbls, shot 440 qts 4235-4400 ft.

Ector County: Wildcat—T. P. Coal & Oil Co.-Seaboard Oil Co.'s Barrow 1, c ne ne T&P sec 16, blk 42, T-1-S, elev 3019 ft, salt 2070-3110 ft, Yates sand 3170 ft, solid lime 4715 ft, abnd 4949 ft.

Gaines County: Cedar Lake—Stanolind's Collett 1, c nw ne PSL sec 5, blk C-30. swabbed 1049 bbls, shot 710 qts 4665-4820 ft; Green 3, c sw nw PSL sec 5, blk C-30, swabbed 626 bbls, shot 770 qts 4640-4790 ft.

Gaines County: Seminole—Humble & T. P. Coal & Oil Co.'s Blakemore 6-B, c sw se W. T. Ry. sec 232, blk G, flowed 306 bbls natural ½-in, lime 5140-5340 ft.

Hockley County: Slaughter—Honolulu Oil Corp.'s Mallet 9-A, nwc lab 3, leag 52, Scurry CSL, flowed 947 bbls 2-in, acidized 10,000 gals 5012-44 ft; Mallet 22-B, nwc lab 15, leag 49, Scurry CSL, flowed 1109 bbls, plus 38% bs&w, cas, acidized 10,000 gals 4963-5031 ft. Magnolia's Mallet 6-C, near c lab 8, leag 51, Scurry CSL, flowed 1208 bbls cas, acidized 10,500 gals 4976-5040 ft; Mallet 20-J, nec lab 17, leag 50, Scurry CSL, flowed 1560 bbls cas, acidized 10,500 gals, td 5034 ft. Milhoan Prod. Co.'s Fannin-Slaughter 3, nec lab 9, leag 42, Maverick CSL, flowed 878 bbls cas, acidized 12,000 gals 4837-4957 ft. Texas Co.'s Mallet 4-C, nwc lab 12, leag 51, Scurry CSL, flowed 718 bbls cas, acidized 13,000 gals, 4985-5035 ft; Mallet 15-B, sec lab 18, leag 49, Scurry CSL, flowed 1601 bbls cas, acidized 13,000 gals 4950-5028 ft; Slaughter 73, near c lab 63, leag 39, Maverick CSL, flowed 1110 bbls cas, acidized 14,000 gals 4950-5007 ft; Slaughter 75, sec lab 71, leag 38, Zavalla CSL, flowed 1300 bbls cas, acidized 12,000 gals 4905-5010 ft; Slaughter 79, nec lab 94, leag 38, Zavalla CSL, flowed 673 bbls cas, acidized 4500 gals 4932-87 ft; Slaughter 82, nec lab 91, leag 38, Zavalla CSL, flowed 2037 bbls cas, acidized 13,000 gals 4900-5025 ft.

Howard County—Continental's Clay 4-F, nw se ne W&NW sec 138, blk 29, pumped 469 bbls, acidized 1500 gals, 2445-2510 ft. FHE Oil Co.'s Dodge 6, swc nw T&P sec 15, blk 30, T-1-S, pumped 131 bbls, shot 460 qts 2767-2862 ft.

Mitchell County: Northwest—W. M. Fentress et al's Strain 2, sec blk 14, J. P. Mitchell sur, pumped 72 bbls, shot 570 qts 1600-79 ft. N. H. Martin & Son's Crawford 1, 990 ft from nec blk 13, Reiger sur, pumped 112 bbls, shot 730 qts 1560-1689 ft. F. W. Merrick, Inc.'s Mills 3, 1169 ft from n and 330 ft from w blk 18, McGinnis sur, pumped 199 bbls, shot 720 qts 1553-1729 ft.

Pecos County: Fromme—Cordova Union Oil Corp.'s Fee 1, 330 ft from ne and 330 ft from w lines T. C. Ry sec 6, blk 110, flowed 69 bbls 2-in natural, sand 1430-40 ft.

Pecos County: Taylor Link—H. C. McClellan & Remlig Oil Co.'s University 1, nec n½ nw sec 14, blk 18, abnd 1636 ft.

Pecos County: Walker—Cities Service Oil Co.'s White-Baker 2-A, se sw se GC&SF sec 86, blk 194, flowed 370 bbls ¼-in, shot 95 qts 1875-1907 ft.

Upton County: McCamey—T. P. Coal & Oil Co.'s Lane 49-A, nw ne nw GC&SF sec 5, pumped 240 bbls, acidized 1000 gals 2175-90 ft.

Upton County: Wildcat—J. S. Pittman-Geo. Atkins' Fowler-Starnes 1, nwc ne GC&SF sec 89, blk y, elev 2899 ft, top Yates 2112 ft, abnd 3214 ft.

Winkler County: Gulf-O'Brien — Gulf's O'Brien 197, nw ne se GMMB&S sec 11, blk F, flowed 577 bbls cas, shot, td 2945 ft.

Winkler County: Keystone—Tide Water Associated's Campbell 3, sec PSL sec 18, blk B-3, flowed 254 bbls ¾-in, shot 370 qts 3187-3339 ft.

Winkler County: Wildcat—Weier Drlg. Co.'s Campbell 1, nwc sw PSL sec 21, blk B-3, elev 2912 ft. anhydrite 860 ft, salt 1220-2325 ft, brown lime 2430 ft, abnd hfw 3430-3435 ft.

Yoakum County: Wasson—American Liberty and Atlantic's Moore 8, c ne sw sec 734, blk D, flowed 410 bbls 2-in, acidized 10,000 gals, td 5180 ft. Drlg. & Exploration Co.'s Randall-Humble 6-A, c ne sw sec 835, blk D, flowed 453 bbls 7/16-in, acidized 10,000 gals 4895-5120 ft.

OLD WELLS DEEPENED

Crane County: Gulf-McElroy — Gulf's McElroy 24, otd 2859 ft, pumped 239 bbls, shot 840 qts 2746-2931 ft.

Crane County: Sand Hills—Gulf & Cranfill Bros.' Tubb 8, sec PSL sec 12, otd 4425 ft, flowed 441 bbls oil and 97 bbls w, acidized 4000 gals, Ellenberger 5740-64 ft.

Howard County — Mid-Continent's Denman 2, otd 2809 ft, pumped 143 bbls, shot 450 qts 2740-2864 ft.

Upton County: McCamey—T. P. Coal & Oil Co.'s Lane 28-A, otd 2188 ft, pumped 200 bbls, acidized 2000 gals, td 2222 ft.

WILDCAT STARTS

Ector County—T. P. Coal & Oil Co.'s Neatherly 1, c ne ne T&P 8, blk 41 T-1-S, mim.

Pecos County—M. B. Bryant et al's McDonald 1, 1100 ft from n and 2460 ft from e lines H&GN 46, blk 12, lcn Ellenberger test.

West Central Texas

Jim Ned Well Flows Oil From Upper Strawn

Upper Strawn yields flowing production in Jim Ned pool, Coleman County. Canyon test in Taylor County shallow pool showing for pumper, and Markel area has largest producer. Shackelford County has oil strike in Strawn near gasser.

Coleman County: Lewis Production Co.'s Geer 2, Jim Ned pool, flowed natural in pits to clean itself after drilling plugs from 7-inch at 3480 ft., total depth 3500 ft., in Morris sand of Strawn series topped t 3474 ft., elevation 2030 ft. Official gauge pending. Company's Greer 1, north offset to pool's 3900-foot Gray sand discovery, failed to make commercial well in Gray sand 3910-70 ft., and plugging back to Morris. Anderson-Prichard Oil Corp.'s Mathews 1, south offset discovery, flowed 12 to 14 bbls. oil hourly, shot 30 quarts nitro 3893-3914 ft., total depth 3934 ft.

Taylor County: J. C. Hunter et al's Anderson 1, C NE SW LAL 8, amidst shallow pumpers in Lake Kirby area, yielded salt water with show oil on initial test of Palo Pinto 3360-63 ft., and in deepening to 3393 ft., logged oil saturation 3382-85 ft. Acid treatment of latter zone resulted in 700 ft. oil and 1000 ft. water to indicate possible commercial pumper. Palo Pinto topped at 3358 ft., elevation 1820 ft. Forest and Carl King's Anderson 1, northwest offset, passed up oil saturation 3369-90 ft. in drilling to 3546 ft. but failed to make well when plugged back for acid treatment. In Merkel pool, Fain-McGaha Oil Corp., successor to Peckham et al, completed largest producer when Buford 2 flowed 104 bbls. 36.6-gravity oil 1½ hours, open tubing, lower Hope saturation 2602-12 ft., elevation 1795 ft. Staley Oil Co.'s Morgan 2, offsetting production, missed both oil zones in drilling to 2760 ft., where lowering pipe account hole full water. Lewis Production Co.'s Hart 1, northeast outpost, drilling 2725 ft. with hole full water.

Shackelford County: R. H. Roark et al's Elliott 1-B, C SE SW LAL 9, ¼ mile west of their wet gasser in 2879-89-ft. Strawn sand, flowed by heads rate 100 bbls. oil and 1,500,000 ft. gas daily after 100-quart nitro shot 2902-40 ft., having plugged back from Ellenberger 4350-95 ft., elevation 1447 ft. Casing partially collapsed after shot, then tools were hung in hole.

COMPLETIONS

Callahan County: Wildcats—Wm. D. Austin's Jackson 1-A, c sw ne ETRy 20, abnd 1208 ft. Ramhicke Co.'s Hickman 1, nec se J. W. Jones, sur, abnd 498 ft. Lee & Harris' Isenhower 1, se se TE&L 2273, abnd 446 ft.

Coleman County—States Oil Corp.'s Featherston 2, M. J. Goble 118, abnd 3755 ft.

Comanche County—L. H. Choate et al's Smith 6, Lot 3, Lampasas CSL 34, pumped 25 bbls, shot 30 qts 602-33 ft.

Jones County: Wildcat—J. B. Cunningham-L. H. Pearson's Freeman 1, 2000 ft from s 330 ft from w Alex Glenn 264, elev 1767 ft, hfw abnd 2813-24 ft.

Jones County—Butler-Horne Drlg. Co.'s Wimberly 1-A, nwc blk 106, DeWitt CSL, flowed 151 bbls, acidized 3000 gals 2528-42, td 2616 ft. Hedrick Oil Co.'s Morrison 2-B, nw

ACTUAL CASE HISTORY

This Pipe Wiper

stripped 4,000,000 feet of hole

How durable is a Patterson-Ballagh Pipe Wiper?

Well, here's an example

The 17" Pipe Wiper shown in the photo has been used for 1½ years in constant service.

Seven wells were drilled with it.

About 500 trips were made with an average depth of 8000 feet.

The total depth footage ranged from 50,000 to 60,000 feet.

The total pipe pulled through the Wiper equals more than 4,000,000 feet of travel.

The Wiper was still in service when the photo was taken.

This is an unusual service record, indicative of the long life Patterson-Ballagh Pipe Wipers are capable of rendering. Install one on every one of your rigs. It'll soon pay for itself. See Composite Catalog.

PATTERSON-BALLAGH
CORPORATION
Los Angeles New York City
Houston

PATTERSON-BALLAGH PIPE WIPER

part G. Martinez 137, flowed 516 bbls natural, sand 2198-2221 ft. Humble's Graves 5, se nw T&P 41, blk 18, pumped 13 bbls, acidized 6000 gals 2311-47 ft, td 3000 ft.

Shackelford County: Wildcat—J. B. Young et al's Elliott 2, B. O. A. sec 45, abnd 701 ft.

Shackelford County—Green & Haggerty's Elliott 5, L. A. L. sec 11, abnd 854 ft. Roeser-Pendleton-Continental's Cook 8-A-117, ETRy 117, pumped 65 bbls, shot 1695-1701 ft. Ungren & Frazier's Dyer 6-A, T&P sec 36, blk 12, abnd 1312 ft.

Stephens County—Daniels & Pardue's Corbett 1, SPRy 11, blk 2, abnd 3367 ft.

OLD WELL DEEPENED

Stephens County—Tom G. Shaw, Tr's Stroud 2, Green Newton sur A-128, otd 2591 ft, pumped 12 bbls, Strawn sand 3055-65 ft.

WILDCAT STARTS

Eastland County—Kent & Preston's White 1, W. P. Tindell, A-696, lcn. Minerals & Metals, Inc.'s Freyschlag & Graves 1, 467 ft from swc Thos. Foster sur A-130, sp.

Shackelford County—C. J. Kleiner et al's Dawson-Conway 1-A, sec e½ ne ETRy, 165, lcn.

North Texas

Three Deep Wildcats Projected in Montague

Jack County discovery given pipe line outlet, and two completions pending in Hoefle pool. Trio deep wildcats assigned Eastern Montague County by Sinclair Prairie since first year, and one for Grayson County.

Jack County: Anderson-Prichard Oil Corp.'s Hoefle-Conkling 1, north offset to Hoefle pool discovery, entered Bend at 4846 ft, being 24 ft low, and coring lime 4860 ft. Hanlon & Buchanan's Hoefle 1-B, south offset discovery delayed by weather in making production test of broken saturation 4867-4906 ft, top Bend 4867 ft, 5 feet high. Taubert-McKee and Sinclair Prairie's Hoefle 1-A drilling 3310 ft and Hoefle 1-B, spudded and shutdown. Latter partnership opened the area last October with prolific flow. Roeser & Pendleton's Webb 1, northwest part of J. E. Middleton Survey and in southeast sector of county, flowed estimated 100 bbls fluid, 50 percent 44-gravity oil, balance bs&w, by heads, daily after landing tubing packer. Production from about 12 feet of broken Strawn sand, topped 2890 ft, total depth 2933 ft. Sinclair Refining Company authorized 8000-ft 4-inch lateral from its nearby dual trunk line to run this 44-gravity oil.

Grayson County: Robt. W. Talbot et al's Jewell 1, 3 miles west of Hagerman and abandoned last June at 6665 ft, logged small show gas 6798-6840 ft, and was temporarily halted by cold weather at 6881 ft with contract to deepen to 7500 ft. Sinclair Prairie's Wheeler 1, near west edge of county and 1½ miles southwest of Collinsville, is second Ordovician project for company's geophysical prospect.

Montague County: Sinclair Prairie increased its wildcat campaign in east and southeastern part of county to three operations with the starting of Collier 1, J. Collier Survey A-1212, 6 miles east of Montague. All are on comparatively small blocks taken on geophysical data.

Clay County: Shell's Coleman 1-B, south of its New York City pool discovery, yielded 70 bbls oil and 49 bbls water on 9-hour swabbing test following 2000-gallon acid treatment through perforations 6389-6422 ft in Mississippi, topped at 6229 ft, or 78 ft low. Four of the six wells on production made prolific flows on initial tests.

Throckmorton County: Humble's McKnight 3, third test for Bend lime pool opened last year, missed the oil horizon in Bend, topped 4046 ft, and awaiting orders 4746 ft. McKnight 2, ¼ mile south of discovery, pumped 27 bbls oil and 73 bbls water initial, acidized Bend saturation 4042-60 ft.

COMPLETIONS

Archer County—Guy J. Brown et al's Perkins 5-E, Denton CSL 27, leag 3, pumped 9 bbls, sand 1550-1600 ft. Deep Oil Dev. Co. et al's Griffin 6-A, sec 13, Palo Pinto CSL, pumped 41 bbls, sand 1626-28 ft; Waggoner Est. 5, H&TC 1, abnd 1711 ft. Hanlon & Buchanan's Hayter 1, TE&L 2415, abnd 1480 ft. Producers Dev. Co.'s Roach 7, TE&L 1595, pumped 24 bbls, sand 1264-76 ft; Roach 8, TE&L 1595, pumped 9 bbls, sand 1263-75 ft. Shappell Oil Co.'s Bell 40, Clark-Plumb 27, blk 5, pumped 10 bbls, sand 978-85 ft. Texas Co.'s Hill 17, TE&L 2408, abnd 1502 ft.

Archer County: Wildcats—Craig & Wilson's Threet 1, sec n½ blk 92 Jefferson CSL, abnd 1145 ft. F. T. Johnson et al's Wilson 1, nw ATNCL 83, abnd 1641 ft. Golding-Cochran's Kunkel 1, BBB&C sur, Bend 4689 ft, Mississippi 5237, abnd 5303 ft.

Clay County: Wildcat—Webb-Taylor Drlg. Co.'s Ryan 1, 1126 ft from n 880 ft from w sec 11, Byers sur, abnd 1219 ft.

Clay County—E. G. Boardman et al's 1st Texas Jt. Stock Bank 1, sec 13, Thornberry sur, pumped 9 bbls, sand 1163-70 ft. Houston Bowers et al's Rice 4, sec 14, Thornberry sur, pumped 184 bbls, sand 1115-28 ft. L. T. Burns et al's Hamilton 10, sec 83, Byers sur, abnd 1325 ft. Johnson & Kouri's Taylor-Cheeves 1-B, sec 55, Bacon sur, abnd 1160 ft. Jones & Hamner's Bilbrey 1, sec 3, W. Wyatt sur, abnd 1201 ft. Perkins-Cullum's Taylor 8-B, sec 42, Bacon sur, pumped 136 bbls, sand 1076-81 ft. Sussex Oil Corp.'s Hamilton 11, sec 83, Byers sur, pumped 66 bbls, sand 1124-28 ft. Texas Co.'s Boddy 3, pumped 35 bbls, sand 1036-46 ft, td 1051 ft. Webb-Taylor Drlg. Co.'s Taylor-Cheeves 1, sec 55, Bacon sur, abnd 1162 ft.

Clay County: New York City—Shell's Coleman 3-A, 300 ft from n and 1790 ft from e blk 24, Calhoun CSL, flowed 3762 bbls ¾-in, acidized 3000 gals, Mississippian, perf 6313-60 ft, td 6478 ft.

Cooke County—C. B. Christie et al's Felderhoff 5, sec 24, Geo. Ivy sur, pumped 12 bbls, shot sand 756-94 ft. Kewanee Oil Co.'s Timmins 19-B, E.T.Ry sur A-363, pumped 25 bbls, shot sand 1260-88 ft, td 1489 ft. Trumter Pet. Corp.'s Stacey 14-B, J. Clark sur, pumped 48 bbls natural, sand 760-70 ft.

Cooke County: Wildcat—Seitz-Comegys & Seitz, Inc.'s Dennia 1, 1201 ft from e and 225 ft from n lines J. S. Stump sur, A-695, abnd Ellenberger 1539-1723 ft.

Jack County—Hanlon & Buchanan's Myers 3, SPRy A-1592, pumped 120 bbls natural, sand 2401-07 ft; Smith 2, BS&F 2, pumped 22 bbls, shot 10 qts 3270-80 ft, td 3392 ft; Smith 3, BS&F 2, flowed 126 bbls natural ¾-in, sand 2870-77 ft, td 2899 ft.

Montague County: Wildcats—Youngblood-Foree-Stogner's Meador 1, 467 ft out s corner J. B. Miller sur A-461, Bend not reached, abnd 6505 ft. Gibson-Johnson, Inc.'s Howard 4, blk 90, Kaufman CSL, pumped 187 bbls oil 57 bbls w, perf Strawn sand 37 shots 3934-40 ft, td granite 4515 ft, pb to 4055 ft.

Throckmorton County—Burk Royalty Co.'s Housley 23, sec 28, Comanche Indian Reserve, pumped 65 bbls, sand 660-704 ft. Humble's McKnight 2, sec 2, Day L&C Co. sur, pumped 27 bbls, acidized Bend 4042-60 ft. E. D. Spears et al's Bradley 8, pumped 5 bbls, sand 375-87 ft; Bradley 9, pumped 4 bbls 378-86 ft; Bradley 10, pumped 3 bbls 379-87 ft; Bradley 11, pumped 2 bbls 366-76 ft; Bradley 12 (key well), td 386 ft; Bradley 13, pumped 2 bbls 373-80 ft.

Wichita County—Continental's Burnett 53-F, HT&B 2, A-507, abnd 2002 ft. Coppock & Coleman's Warren 19, KWVFL 32, pumped 87 bbls 1763-65 ft. Deep Oil Dev. Co.'s Munger 25-A, KWVFL 31, pumped 27 bbls sand 1058-61 ft. F. A. Dickenson et al's fee 19, GC&SF 6, A-625, pumped 6 bbls 809-18 ft, td 820 ft. Hammon-Hanlon & Buchanan's Fassett-Tuttle 49-E, ETRy 1, A-76, pumped 17 bbls sand 618-28 ft. J. W. Hastings et al's Ramming 4, se part H. Hastie sur A-92, abnd 1250 ft. Chas. E. Morrison Prod. & Drlg. Co.'s Slaughter 1, H&GN 21, A-142, abnd 1830 ft. C. F. Schram et al's Daume 3, SPRy 1, pumped 10 bbls sand 678-680 ft. Thweatt & Whittaker's Hodges 1, KWVFL 38, abnd 1800 ft. Wolfe & Hull's Daume 1, SPRy 1, A-429, pumped 12 bbls sand 682-91 ft. Texas Co.'s Honaker 78, SPRy 1, A-280 ft, td 2142 ft, pb pumped 100 bbls natural, sand 1938-46½ ft.

Wichita County: K-M-A—Deep Oil Dev. Co.'s Munger 17-A, KWVFL 31, flowed 512 bbls ½-in, Strawn 3750-3800 ft, td 3820 ft; Munger 24-A, KWVFL 30, pumped and flowed 544 bbls, shot 330 qts 3780-3852 ft, td 3879 ft. Hanlon & Buchanan's Fassett-Tuttle 26-E, SA&MG 4, flowed 432 bbls ¾-in, shot 100 qts 4029-74 ft; Fassett-Tuttle 30-G, J. Wisdom-SA&MG sur A-572, flowed 432 bbls 5/16-in, shot 110 qts 4028-64 ft. W. H. Hammon-Hanlon-Buchanan's Fassett-Tuttle 44, ETRy 1, flowed 528 bbls ½-in, shot 90 qts 3861-3980 ft.

Wichita County: K-M-A Ellenberger—Tide Water Associated's Mangold 1-E, blk 38, P. Castleman sur, flowed 829 bbls ¾-in, acidized 3000 gals 4180-4211 ft, td 4282 ft; Pettit 16-E, Durain sur, flowed 2104 bbls ¾-in, acidized 3000 gals 4190-4292 ft. Ven-Mex Oil Co.'s Wichita River 1-E, flowed 960 bbls ¾-in, acidized 2000 gals 4210-4307 ft; Wichita River 3-E, flowed 1312 bbls ¾-in natural 4237-86 ft.

Wilbarger County: Harrold—Big Six Oil Co.'s A. P. Morris 2, H&TC 3, blk 14, pumped and flowed 504 bbls, perf 24 shots 3160-82 ft, td 3292 ft.

Wilbarger County: Rock Crossing—Phillips' Waggoner 11-G, nwc H&TC 43, blk 4, flowed 648 bbls 9/16-in natural, Ellenberger 3766-76 ft.

Wilbarger County—W. T. Waggoner Est.'s fee 35-AA, H&TC 14, blk 13, pumped 24 bbls, sand 1680-1705 ft.

Young County—Anzac Oil Corp.'s Graham et al 3, sec 5, Allen Hines sur, pumped 46 bbls, sand 2862-67 ft. L. T. Burns et al's Morrison 1, TE&L 246, pumped 15 bbls oil 50 bbls water, acidized 2500 gals, perf Bend 3980-86 ft, td 4030 ft. N. D. Goldsmith et al's Wilson 7, TE&L 162, abnd 1018 ft. Lotson & Worthington's Boley 2, TE&L 194, pumped 10 bbls sand 1068-80 ft. Pemeta Oil Co.'s Swain 13, TE&L sec 1465, abnd 715 ft.

OLD WELLS DEEPENED

Montague County — Continental - Seitz - Comegys & Seitz's Hott 1, Ed O'Conner sur A-580, otd 1600 ft, pumped 135 bbls, sand 1763-69 ft. Lesh & McCall's Davenport 2, J. Fitch sur, otd 1673 ft, pumped 240 bbls natural, sand 2484-90 ft.

Wichita County: K-M-A Ellenberger—Falls Ref. Co.'s Tidwell 1, nwc tr, W. H. Spillers sur, otd 4103, pumped 20 bbls, Ellenberger 4419-22 ft, Golding & Cochran's Preston 11-A-E, swc H&TC 27, blk 7, otd 4376 ft, flowed 214 bbls, acidized 5500 gals, td 4467 ft.

Wichita County—Magnolia's Waggoner Est. 11-A, ne sw HT&B 13, A-137, otd 1757 ft, abnd, Ellenberger 3471-3503 ft.

Young County—Chas. E. Knox et al's Worsham 4, TE&L 1975, otd 3989 ft, 9,150,000 gas, acidized 3000 gals, perf Marble Falls 4354-70 ft, td 4441 ft.

WILDCAT STARTS

Archer County — Hanlon & Buchanan's Clagett 1, 900 ft from n and 1240 ft from w lines R. Story sur A-72, lcn.

Clay County—Jack Story Jr. et al's C. H. Brock-Texaco 1, 150 ft out nwc s 60-ac of 180-ac tr, Alex McGown sur A-319, lcn.

Grayson County—Sinclair Prairie's Wheeler 1, 660 ft out nwc of n 50-ac of 100-ac tr, Chas. Quillen sur, 1½ mi sw Collinsville, lcn.

Montague County—Sinclair Prairie's M. E. Collier 1, 740 ft from sw and 500 ft from se lines of 46.2-ac lse and J. Collier sur A-1212, 6 mi e of Montague, rur.

Wichita County—J. H .Turner et al's W. L. Scott 1, 370 ft from e and 150 ft from s lines cw¼ Tarrant CSL sec 15, 3 mi e Iowa Park, lcn.

Young County—Seth Cockrell et al's Johnson 1, 908 ft from w and 1110 ft from s lines TE&L 25, lcn.

Texas Panhandle

COMPLETIONS

Carson County—Skelly's Schafer 142, I&GN 197, blk 3, pumped 102 bbls, shot 375 qts 2960-3030 ft.

Gray County—Coronado Oil Co.'s Davidson 3-A, H&GN 87, blk B-2, pumped 187 bbls, shot 200 qts lime 3108-29 ft, td 3142 ft. Stanolind's Lovett 3-A, H&GN 36, blk B-2, pumped 480 bbls, shot 348 qts lime 2925-3034 ft. Texas Co.'s Saunders 36, pumped 163 bbls, shot 125 qts 2800-60 ft.

Hutchinson County — Phillips' Jordan 18, TCRy 20, blk M-21, pumped 147 bbls, shot 345 qts lime 2890-2981 ft; Houck 2, sec 25 blk M-23, pumped 37 bbls, shot 420 qts 3180-3278 ft, td 3280 ft. Stanolind's Luginbyhle 2, W. P. Hedgecock Sur 13, blk V, pumped 96 bbls, shot 470 qts lime 3030-3135 ft. Harry Stekoll et al's Whittenburg 43-A, GC&SF 89, blk Z, junked 2996 ft.

Moore County—Canadian River Gas Co.'s Bivens 29-A, H&TC 55, blk 47, 46,000,000 gas, 349 lbs rock pressure, lime 2195-2210 ft, td 2490 ft; Masterson 6-A, D&P 73, blk 0-18, 15,500,000 gas, 384 lbs rock pressure, lime 2605-2798 ft, td 3400 ft, Phillips' Guleuke 1, T&NO 180, blk 3-T, 51,000,000 gas, 336 lbs rock pressure, lime 2985-3155 ft.

Wheeler County — Pendleton & Vaughn's Krey 2, H&GN 4, blk A-8, abnd 2256 ft.

Southwest Texas

Three New Areas Adding High-Octane Oil Reserves

Three new oil reserves were opened in Southwest Texas during the first week of 1942 to further expand the high-octane oil reserves of this region. New pays were also added in several areas.

Jackson County: W. S. Boyle and John G. Mayo's Rodesney 1, J. Rambo survey, between Mauritz and Ganado fields, is opening a new area; flowed rate 260 bbls, 26.8-gr oil ⅛-in ch, 525 lbs tubing, 575 casing pressure, perf 5410-14 ft in Frio 5411-22 ft, td 7810 ft. Perf 5514-18 ft showed gas-distillate; sand 4970-92 showed oil.

San Patricio County: Tide Water Associated's S. A. Loan & Trust 1, McAuley survey, 3 mi sw Sinton, flowed gas, spray 53.9-gr colored distillate, perf 6673-82 ft (36 shots), ¼-in ch, 2600 lbs equalized pressure. Found distillate sand 6662-77 ft; sand and shale with oil odor 6677-82 ft; td 6689 ft.

Aransas County: Humble's Kent & Crane 1, Gilliland survey, Live Oak Peninsula, topped sand oil odor 7444 ft and again 8380 ft; drilling 8532 ft, considered certain production in Marginulina-Frio zone.

Jim Wells County: Rand Morgan's Fee 1, Section 1, 1 mi sw Henshaw field, still testing estimated 100 bbls 35-gr oil, ⅛-in choke, sand 3780-92 ft. Oil 59 octane. Either field or extension.

Bee County: Tom Slick's Grissom 1, McEarley survey, 1 mi s Caesar field, plugged back from 7509 ft, perf 6225-57 ft to test Carrizo sand cored 6504-57 ft. Expected to produce distillate to open second Carrizo-Wilcox field in county.

Lavaca County: W. S. Boyle's Roecher 1, Wooten survey, 10 mi se Hallettsville, may set casing and test following electric log show of sand 8900-9000 ft, 1500 ft in Wilcox.

Duval County: Sun's Weiderkehr 77-A, ¼ mi s Yegua discovery in North Government Wells field, is completing in new sand (Chernoskey?) after drillstem test 1818-60 ft recovered 510 ft 21.2 gr oil, 60 ft mud, ¼-in ch, in 30 min. Bottom is 2964 ft, plug 1860 ft; bottom hole 180 lbs open, 680 lbs closed.

COMPLETIONS

Jackson County: Lolita — Magnolia's M. Mitchell 27, sur 20, flowed 115.92 bbls 33.9-gr oil, 7/64-in ch, 800 lbs tp, 1775 lbs cp, gas/oil ratio 545/1, perf 5939-42 ft, td 5944 ft.

Jackson County: Maubro—Humble's Drushel 3, B. J. White league, flowed 88.32 bbls 23.9-gr oil, ⅛-in ch, 500 lbs tp, 450 lbs cp, gas-oil ratio 255-1, top sd 5222 ft, td 5237 ft; Mauritz Bros. 6-B, blk 10, flowed 113.44 bbls 23.8-gr oil, ⅛-in ch, 625 lbs tp, 650 lbs cp, gas-oil ratio 244-1, sand 5220 ft, td 5230 ft.

Jackson County: West Ranch—L. Crouch's State 2, D. Hoffman sur, flowed 132.48 bbls oil, ⅛-in ch, 650 lbs tp, 1125 lbs cp, gas-oil ratio 380-1, perf 5570-85 ft, td 5807 ft. Magnolia's West 228-A, R. Musquez gr, flowed 108.75 bbls 30.4-gr oil, 7/64-in ch, 400 lbs tp, 1175 lbs cp, gas-oil ratio 315-1, perf 5759-63, td 5788 ft; West 231-A, R. Musquez gr, flowed 127.61 bbls 31.1-gr oil, 7/64-in ch, 875 lbs tp, 1000 lbs cp, gas-oil ratio 456-1, perf 5739-43 ft, td 5750 ft.

Jim Wells County: Ben Bolt—H. H. Howell's Reed & Lindsay 2-A, blk 21, flowed 340 bbls 43-gr oil, 3/16-in ch, 700 lbs tp, 1400 lbs cp, gas-oil ratio 1500-1, perf 5228-38 ft, td 5243 ft.

Jim Wells County: Stratton—S. E. Wilson, Jr., et al's S. A. Jt. Stk. Land Bank 1-C, sec 8, nw outpost, flowed 165.54 bbls 41.2-gr oil, ⅛-in ch, 900 lbs tp, 800 lbs cp, gas-oil ratio 820-1, perf 6447-52 ft, td 6600 ft, extends field, opens new sand west flank structure.

Jim Wells County: Wildcat — Anderson-Prichard and Gorman & Yoakam's Allen 1, lot 10, blk B, 1¼ mi n Wade City field, top Pundt 4804 ft, top McNeil 4963 ft, top Stillwell 5365 ft, abnd 5378 ft.

Kleberg County: Stratton—Humble's King-Paso Ancho 9, L. Rivas gr, flowed 110 bbls 43.2-gr oil, ⅛-in ch, 875 lbs tp, 1250 lbs cp, trace water, gas-oil ratio 453-1, top sand 6614 ft, td 6640 ft.

Live Oak County: N. Jacob—Loma Oil Co.'s L. Jacob 16-B, sur 15, pumped 21 bbls 20.8-gr oil, small gas, top oil sand 991½ ft, td 1004 ft.

Nueces County: Agua Dulce—S. E. W. Oil Co.'s Pfluger 1-A, sec 186, flowed 143.31 bbls 40.2-gr oil, ⅛-in ch, 1100 lbs tp, 1650 lbs cp, gas-oil ratio 640-1, perf in sand topped 7050 ft, td 7114 ft.

Nueces County: Bentonville-King—Southern Minerals' King 23-B, sec 30, flowed 70.47 bbls 38.8-gr oil, 7/64-in ch, 825 lbs tp, 1075 lbs cp, gas-oil ratio 1410-1, perf 5647½-54 ft, td 5654 ft.

Nueces County: S. Clara Driscoll—Texas Conservative Oil Co.'s Taylor 4, sec 126, flowed 1266.92 bbls 31.2-gr oil, ⅛-in ch, 550 lbs tp, 900 lbs cp, gas-oil ratio 630-1, perf in sand topped 4980 ft, td 5425 ft.

Nueces County: Stratton—Southern Minerals' Stratton 33, sec 199, flowed 78.56 bbls 42-gr oil, 7/64-in ch, 900 lbs tp, 1275 lbs cp, gas-oil ratio 895-1, perf 6640-55 ft, td 6695 ft.

San Patricio County: Midway—W. F. Morgan's Schmidt 5, blk 8, flowed 93.20 bbls 28.2-gr oil, ¼-in ch, 326 lbs tp, 1475 lbs cp, gas-oil ratio 490-1, perf 5324-34 ft, td 5336 ft.

San Patricio County: Odem—Wellington Oil Co.'s J. F. Welder 3-B, Hart & Sons gr, tested some oil, perf 6751-55 ft in new sand for field, abnd 6985 ft.

San Patricio County: Wildcat—Forest Dev. Corp.'s M. C. Henry 1, lot 40, Drummond sub, 7 mi sw Taft, abnd in Frio 5958 ft.

Bastrop County: Lentz — Wiegand Bros.' Lehman 1, Lentz sur, Dale lime 2266-78 ft, showed oil, abnd 2278 ft.

Jim Hogg County: Chaparosa—Adams, Neuhaus & Lucky's T. East 1, blk 277, Randado gr, 1¼ mi s Chaparosa gas prod, flowed 102 bbls 47.6-gr oil, 1-in ch, 300 lbs tp & cp, gas-oil ratio 160-1, top Chaparosa 2756 ft, top Loma Novia 2875 ft, Pettus 3466-71 ft, 5½-in cas 3463 ft, elev 680 ft, td 3471 ft; extends field, new sand, first oil prod; high octane.

Jim Hogg County: Colorado—C. Andrade III's Trevino 1-J, sec 37, flowed 157 bbls 46.5-gr oil, 3/16-in ch, 340 lbs tp, 520 lbs cp, top sand 2820 ft, td 2828 ft. Humble's King-Colorado 51-B, Las Moretas gr, flowed 168.57 bbls 46.4-gr oil, 3/16-in ch, 325 lbs tp, 820 cp, gas-oil ratio 596-1, top sand 2871 ft, td 2895 ft.

Jim Hogg County: Wildcat—Sun's A. C. Jones 2, Agua Nueva de Abajo gr, 4570 ft ne wildcat gas well, test oil, gas, sw 4220-23 ft in discovery sand, abnd 4373 ft.

Starr County: Rincon—Continental's Slick 27-A, sec 231, flowed 161 bbls 41.1-gr oil, 12/64-in ch, 765 lbs tp, 1300 lbs cp, gas-oil ratio 2813-1, perf 3984-97 ft, td 4225 ft; Slick 59-B, sec 506, flowed 238 bbls 41-gr oil, 12/64-in ch, 785 lbs tp, 1360 lbs cp, gas-oil ratio 506-1, perf 3960-4000 ft, td 4260 ft; Slick 60-B, sec 506, flowed 194 bbls 41.2-gr oil, 3/16-in ch, 425 lbs tp, 750 lbs cp, perf 4001-23 ft, td 4630 ft.

Starr County: Sun—Humble's Block 1, Los Retachez gr, flowed 77.24 bbls 46.5-gr oil, 3/16-in ch, trace water, gas-oil ratio 1245-1, perf in sand topped 4700 ft, td 4709 ft. Sun's Margo 2, Los Retachez gr, pumped 22.76 bbls 46.2-gr oil, 15.4% sw, gas-oil ratio 123-1, top sand 4643 ft, td 4700 ft.

Starr County: Yturria—Sun's Chapotal 3-A, por 99, flowed 132.3 bbls 41.3-gr oil, 9/64-in ch, 450 lbs tp, 680 lbs cp, gas-oil ratio 550-1, sand 4216-32 ft, td 4232 ft.

Zapata County: Lopeno—Jamieson & Wellington's I. Ramirez 1, lots 2 & 4, sh 1, por 18, comp 18,000 gas, 1000 lbs rp, perf 2495-2525 ft, td 2615 ft.

OLD WELL DEEPENED

Brooks County: Kelsey—Magnolia's State-Marshall 7, sur 722, flowed 180 bbls oil ⅛-in ch, 900 lbs tp, 1000 lbs cp, gas-oil ratio 560-1, perf 4949-52 ft, deepened 4758 to 4988 ft.

WILDCAT STARTS

Bee County—W. E. Rowe's Stubenthal 1, P. O. O'Boyle sur, 2½ mi nw Skidmore, lcn 5000-ft test.

Hidalgo County—Baldridge & King's Chapa 1, por 74, 4 mi e Sullivan City, lcn 5000-ft test.

Jim Wells County—Arkansas Fuel Oil Co.'s West 1, Casa Blanca gr, 1¼ mi se Sandia, lcn 5800-ft test.

Maverick County — Wellington Oil Co.'s Sullivan 1-D, sec 29, I&GN sur, 9 mi ne El Indio, lcn 3000-ft test.

McMullen County—Cities Service's Lowe 4, sec 130, A. Martin sur, 29 mi sw Tilden, dr 340 ft, 1900-ft test.

Nueces County—Wellington's Brown 1, blk 5, Bishop sub, Petronila ranch, 2½ mi w Luby, lcn 7500-ft test.

Starr County—Sun's Saenz 1, S. T. Cooper sur 194, 2¼ mi w Sun field, ru 7500-ft test.

Webb County—H. M. Amsler's Benavides 1, sec 692, Longoria sur, 8 mi n Bruni, lcn 2600-ft test.

Williamson County—H. G. Goff's Jackson 1, G. Foley sur, 6 mi se Thrall, lcn.

Zapata County—V. G. Schimmel et al's Cuellar 1, T&NO 119, 1 mi e Cuellar field, lcn 2500-ft test.

East Texas

COMPLETIONS

Kilgore—Potter Bros. et al's Sparks 2, M. V. Winkle sur, flowed 60 bbl, td 3315 ft. John Wrather et al's Butts 4, M. V. Winkle sur, flowed 560 bbl, Woodbine perf 3544-61 ft, td 3595 ft.

Anderson County: Long Lake—Tide Water & Seaboard's Samuel 2, swc 62-ac lse, D. Parker sur, 81 bbl 6/64-in, Woodbine 5344-46 ft.

Freestone County: Wildcat—O. B. Perot et al (was Westbrook-Whistler's) Coleman 1, 375 ft from ne and 1650 ft from se lines 97-ac tr, H. Howard sur, elev 339 ft, top Austin chalk 2360 ft, abnd Woodbine water sand 3506 ft.

Hopkins County: Wildcat—W. B. Hinton-Talco Asphalt's Long-Sun 1, 650 ft out SEc 225-ac tr, U. Acquier sur, elev 518 ft, Austin 3022-78 ft, Georgetown 4387 ft, Goodland 4692-4727 ft, Paluxy 4741-4895 ft, abnd.

Leon County: Wildcat—Placid Oil Co.'s Weakley 1, 1786 ft from n and 467 ft from w lines C. C. Sealy sur, elev 406 ft, top Pecan 3669 ft, abnd lime 5893 ft.

Rains County: Wildcat—E. B. Germany et al's Collins 1, 467 ft out swc 68-ac tr, Joel Hamm sur, elev 503 ft, Pecan 2288-2460 ft, Austin 3618-3932 ft, sub-Clarksville sand 3990-4015 ft, abnd 4510 ft.

Shelby County: Joaquin-Logansport—Grady Vaughn et al's Texas Co. 1, H. L. Brooks sur, 38,800,000 gas, 2-in, td 4950 ft (Glen Rose).

Smith County: Wildcat—Ryan Consolidated Pet. Corp.'s Wright 1, 3100 ft s of Sabine River and 12,812 ft fr w line J. M. Garcia sur, elev 388 ft, Pecan 3056-3325 ft, Austin 4470-4740 ft, Woodbine 5227, sand 5425 ft, abnd 5475 ft.

Wood County: Hawkins—General American's Hawkins School 1, Lot 18, Blk 30, Hawkins townsite, 453 bbls ¼-in, Woodbine perf 4648-60 and 4688-4700 ft, td 4787 ft. Humble's B. F. Allen 1-D, on 444.76-ac tr, Geo. Brewer sur, 492 bbls ¼-in, Woodbine perf 4769-75 ft, td 4856 ft; Clift 2, nec 111.16-ac lse, Jas. Pollock sur, 341 bbls ¼-in, Woodbine perf 4953-58 ft, td 4970 ft; N. H. Shamburger 3, swc 156.45-ac lse, Jas. Pollock sur, 406 bbls ¼-in, Woodbine perf 4807-13 ft, td 4864 ft. Navarro Oil Co.'s Green 4, nwc 78-ac lse, J. P. Moseley sur, abnd Woodbine water sand 4892 ft.

WILDCAT STARTS

Henderson County—Iowa-Payne Oil Co.'s Weesner-Humble 1, 660 ft out swc 85½-ac tr, Matthew Gollher sur, mim 5000-ft Woodbine.

Hopkins County—W. B. Hinton and Talco Asphalt's Crisp-Humble 1, sec of 8-46-ac of 136-ac tr, Ulysses Acquier sur, rur.

Van Zandt County—O. F. Wencker et al's Continental Assurance Co. 1, 467 ft from n and 467 ft from ne lines 148-ac tr, R. C. Morris sur, mim.

East Texas Salt Water Disposal Company Formed

The East Texas Salt Water Disposal Corporation has been formed at Dallas with headquarters at Tyler. The organization is concerned with return to producing sands salt water from East Texas oil wells.

The Texas Railroad Commission has encouraged the process as a conservation measure since it has a tendency to increase pressures and force more oil from producing sands. It also disposes of water harmful to vegetation and marine life in streams.

Incorporators are John G. Pew, Sun Oil Company; Don R. Gladney, Magnolia Petroleum Company; E. H. Blum, Atlantic Refining Company, of Dallas; Bryan W. Payne and Joe Zeppa, Tyler operators; and David Frame, Humble Oil & Refining Company, Houston. Incorporators will serve as directors for the first year.

The company will be capitalized at $25,000 at first, although it is planned to spend $4,000,000 under the disposal system. It is planned for the system to handle approximately 437,000 barrels of water daily when completed.

The commission last week called a hearing for January 20 at Austin to consider an amendment to its recently adopted disposal order.

Texas Gulf Coast

Tyler County Gets New Field Producing From Wilcox

Interest in Wilcox trend development increases with new discovery in Tyler County; San Jacinto County Wilcox well indicates new field; first major production deal of year made with sale of Dyersdale wells.

Wilcox Discovery: Republic Production & Houston Oil Co. are making a production test in Cushing 1, Tyler County, after recovering 21 stands of oil on 35-minute drill-stem test. The discovery is regarded as significant in that it establishes new production between Joe's Lake and Fred, the latter field being opened two months ago. Cushing 1 was drilled to 8035 ft, test having been made at 7999-8012 ft with 225 pounds pressure. On first drill-stem test at 7946-56 ft, 3 stands oil and 1 stand oily mud were recovered. The well was drilled ahead to its present depth. As result of the two recent discoveries, geophysical work has been intensified in the area, several wells being planned for future drilling.

San Jacinto County: Shell's Central Coal & Coke Co. 1, Mercy area, is reported to have found oil sands in the Wilcox, thus increasing interest in acreage around the block. Reports credit the wildcat with flowing into tanks, company announcement saying, however, that production pipe is cemented at 8295 ft, in Wilcox. Test will be made this week. Several deep wells have been drilled in area, mostly to Wilcox, without establishing production. If productive, the discovery will touch off new work along the trend in Polk, Tyler, San Jacinto and other counties where geophysical work is now being conducted.

Production Sale: First major production trade of year was closed last week with H. C. Cockburn selling a 700-acre lease and 19 oil wells and one gas well in the Dyersdale field, Harris County, to A. W. McDermott, New Orleans. Consideration was $700,000 with Cockburn retaining ⅛ overriding royalty. The field was discovered 1½ years ago. Production is from Miocene at 3400 ft, and Oligocene at 4050 ft. Jack W. Frazier is the other large lease owner in field.

Austin County: Shell's Hintz 1 is coring and drilling below 9100 ft. The wildcat, near Sealy, is credited with finding oil shows, information not being released. Projected depth is 11,000 ft, Wilcox test.

Brazoria County: Best producer in Chocolate Bayou field has been completed with Phillips Petroleum Co.'s Triangle Development 2 extending production 2100 ft southeasterly. Perforated at 9818-22 ft, the flow was 194 bbls on ⅛-in choke, no water, tubing pressure 1400 pounds, 38.9 gravity. Paleo: small Discorbis 6723 ft, Het 7693 ft, F. Marg. 8030 ft.

Chamber County: Rowan Drilling Co. is due to test a higher sand in Land 1, South Anahuac area, after opening gas production at 9034-37 ft in Frio. A second sand was logged in the 8700-ft section. Operators have staked second location on prospect, also known as Ash Point and Double Bayou.

Jefferson County: Stanolind Oil & Gas Co. has spudded Davidson Est. 1, second well at Big Hill. Operator's first well, Anderson 1, was perforated at 8705-20 ft, flowed 2½ barrels 45-gravity oil with 15,000,000 c.f. gas in 15 hours on various chokes, tubing pressure 3375 pounds, casing 950 pounds.

COMPLETIONS

Brazoria County: Wildcat—Sterling O. & R. Co.'s Shanks 1, Stratton Ridge area, 699 ft fr nl and 699 ft fr wl 153-ac tract, John Brown sur, abst 153, oil odor 7540-50 ft, stuck drill pipe, drilled out pipe, td 9267 ft, abnd.

Brazoria County: Chocolate Bayou—Phillips' Triangle 2, 1930 ft fr s&w lines HTB sur, 2500 ft se Triangle 1, perf 9918-22 ft, flowed 194 bbls ⅛-in chk, tp 1400, td 10,306 ft.

Brazoria County: Danbury—Rowan Drilling Co.'s Jamison Est. 16, 1420 ft sw nel Henry Austin sur 6, abnd 4000 ft.

Brazoria County: Old Ocean—Harrison & Abercrombie's Waddy 1, 584 ft fr nel and 575 ft fr sel of George Waddy 10-ac tract, flowed 508 bbls ¼-in chk, tp 700, td 10,946 ft.

Brazoria County: Pledger—Union Producing Co.'s Robert McFarland 1, 741 ft s of nl and 741 ft n fr sl lots 17 and 18, Daniel McNeel sur, tested water and distillate 6835-40 ft, perf 6790-6820 ft, gas 6869 ft.

Brazoria County: West Columbia — Texas Co.'s Abrams 45, 848 ft fr most n'ly nl George Tenille sur, perf 5710-36 ft, flowed 341 bbls ¼-in chk, tp 350, td 5770 ft.

Brazos County: Wildcat—Phillips' Mitchell 1, 1¼ mi nw Millican, 467 ft fr sl 20-ac lse, J. M. Barrera sur, abnd 5511 ft.

Chambers County: Oyster Bayou — Sun's Jackson 7, 428 ft w of el TNO 123, 660 ft fr sl sur, perf 8267-8310 ft, flowed 631 bbls ¼-in chk, tp 1100, cp 1500, td 8311 ft.

Chambers County: Red Fish Reef—Humble's Galveston Bay-State A-26, 1980 ft fr nwl and 1980 ft fr sw l tract 247, flowed 198 bbls ⅛-in chk, sand 8712 ft, tp 1500, gr 40.4, gor 635-1.

Fort Bend County: Wildcat—Jack Taylor's C. L. McFarland 1, 8 mi e Needville, 467 ft fr sel and 467 ft fr swl 80-ac tract, HTC 102, abnd 1060 ft.

Hardin County: Batson—Ada Belle Oil Co.'s Davis 305, 605 ft fr sl and 465 ft fr el 5-ac tract, John Knight sur, swabbed water show oil, abnd 402 ft.

Davis 306, John Knight sur, abnd 1080 ft.

Hardin County: Saratoga—Rio Bravo's Fee C-543, 805 ft fr wl and 1205 ft fr sl J. F. Cotton sur, flowed 14 bbls, td 749 ft.

Hardin County: Sour Lake—H. F. Baker's Sun Oil 2, S. Jackson sur, pumped 77 bbls, td 1660 ft.

Jefferson County: Fannett—Gulf's McLean 10-E, 1310 ft fr el and 330 fr nl 178-ac tr W. M. Smith sur, top sand 8368 ft, perf 8368-99 ft, flowed 209 bbls ¼-in chk, td 8450 ft.

Jefferson County: Lovell Lake — Shell's Pleasant 4, 467 ft fr el and 1030 ft se Pleasant 3, C. Hillebrandt sur, top sand 7780 ft, flowed 149 bbls ¼-in chk, tp 1300, cp 1700, td 7794 ft.

Orange County: Bland—Dishman & Lucas' Bland 2, 1290 ft e of wl and 800 ft n sl 100-ac tr, James Dyson sur, td 3144, pumped 24 bbls 21.5 gr oil, 92% sw.

Washington County: Wildcat — John A. Deering's Buck 1, Old Washington prospect, 605 ft w el and 3100 ft s of nl 200-ac tr, James Lynch sur, abnd 7734 ft in Wilcox.

Wharton County: Boling—J. C. Van Wagner's Fojtek 2, 85 ft se and 100 ft sw w cor lot 38, S. F. Austin sur, sand broken shale 3640-3740 ft, pumped 3 bbls, td 3902 ft.

Wharton County: Magnet—Humble's Cockburn 50, 467 ft nw sel blk 78, S. D. Castleman sur, top sand 5535 ft, flowed 21 bbls 8 hrs ⅛-in chk, tp 700, td 5540 ft.

Wharton County: Withers—F. W. Michaux' Pierce Est 52-A, 933 ft nw 61-A, top sand 5282 ft, flowed 76 bbls ⅛-in chk, tp 750, cp 1000, td 5425 ft.

WILDCAT STARTS

Madison County—Sun's E. L. Leonard 1, John Crownover sur, 467 ft fr sl and 1967 ft fr w of most w'ly el 655-ac tr, pd 2500 ft, lcn.

Polk County—Sinclair-Prairie's C. H. Jones 1, 2 mi s Goodrich, A. Viesca sur 77, 3500 ft fr ne l and 2500 ft se l 589 ac tr, pd 8500 ft, lcn.

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Superior Tests 237-Foot Sand Section at Bayou Blue

Superior tests 237-ft sand section in Bayou Blue flank well, Iberville Parish; production test made on Thornwell wildcat, Jeff Davis Parish; deep test in Neale field still testing.

Iberville Parish: Superior has completed a producer from the thickest sand section yet drilled on the west

flank of Bayou Blue dome. Operators' Schwing 20 topped pay sand at 3780 ft, shallow Miocene, and has total depth 4017 ft. The entire section is saturated except 4- and 5-in intermittent shale breaks. Perforations were made at 3778-73 ft, 20 shots, flowing 125 barrels through ⅛-in choke, tubing pressure 490 pounds, casing 360 pounds, gravity 28.7.

Superior has staked 2 locations. C. K. Schwing 1, located 2310 ft south and 342 ft east from northwest coring sec 72-9s-11e, which will be drilled first. Schwing Lumber & Shingle 21 is spotted 690 ft north and 3229 ft west of southeast corner sec 68-9s-10e on north flank.

Jeff Davis Parish: Cities Service is testing Lacassine Land 1, Thornwell prospect, in deeper sands. Sands showing gas and distillate were logged at 9226-45 ft, 9850-60 ft, and 10,158-75 ft, A new gas and distillate reserve in the area is practically assured.

Beauregard Parish: Atlantic's Hawkins 1, 23-7s-11w, Neale field, is testing in deeper Wilcox intervals, all showing gas, mud and water on two tests. Tests were made in perforations at 12,493-533 ft, swabbing gas and wash water, and 12,284-312 ft, swabbing gas and water. The well is the deepest drilled in the multiple sand field.

East Baton Rouge Parish: Deep and prolific production in the Oligocene section has been opened in the University field. William Helis & Louisiana Progress' Nelson 12 flowed 196 barrels 42.9-gravity oil through ⅛-in choke from perforations at 9567-72 ft. Total depth is 10,017 ft. Tubing pressure on potential test was 1950 pounds. The producer is in the field, thus augmenting reserves considerably.

COMPLETIONS

Ascension Parish: Wildcat — George H. Echols & R. T. McDermott's Southwood-Riverside 1, 1 mi se St. Gabriel field, nw 20-9s-2e, ran electrical log, abnd 9209 ft.

Calcasieu Parish: Vinton—Sutton Joint Accounts' Calcasieu Bank 3, se flank, 1700 ft e & 560 s nw cor ne 3-11s-12w, abnd 5740 ft. Union Sulphur Co.'s Gray Est. 3, sw flank, 2470 ft s & 1190 fe e nw cor 4-11s-12w, perf 3497-3513 ft, flowed 62 bbls, 10/64-in ch, tp 560, cp 975, gr 26, gas-oil ratio 2000/1, td 3998 ft.

Cameron Parish: Black Bayou—Shell's Watkins 49, 665 ft s & 810 ft e nw cor 7-12s-12w, top salt 7954 ft, perf 7702-21 ft, flowed 393 bbls 10/64-in ch, tp 1380, cp 1480, gr 38.6, gas-oil ratio 2000/1, td 7998 ft.

Cameron Parish: Cameron Meadow—Magnolia & Humble's Cameron-Meadow 37, 1200 ft w & 1660 n se cor 21-14s-13w, missed shallow sand, abnd 1395 ft.

Cameron Parish: East Hackberry—Harrison & Abercrombie's Verdine 4, 1595 ft s & 767 ft w se c 14 in 36-12s-10w, perf 7330-50 ft, flowed 298 bbls ¼-in ch, tp 1300, cp 450, td 7382 ft.

East Baton Rouge Parish: University — Willian Helis & Louisiana Progress' Nelson 12, opens deep sand, 1945 ft n & 1107 w se c 37-7s-1w, cavity 7712 ft, sand showing oil 8280-8303 ft, perf 9567-72 ft, flowed 194 bbls ⅛-in ch, tp 1950, csg sealed, gr 42.9, gas-oil ratio 1450/1, td 10,017 ft.

Evangeline Parish: Ville Platte—Continental's Tate 11, 91-ac tract, 40-4s-2e, perf 10,028-40 ft, flowed 310 bbls 12/64-in ch, tp 1350, cp 500, gr 45.6, td 10,049 ft. Vidrine-Guillory 1, Unit 32, begin w cor sec 42, go 1440 ft n 40 deg 30 mins e, thence 586 ft 40 deg 24 mins e 43-4s-2e, perf 10,037-58 ft, flowed 278 bbls 12/64-in ch, tp 1350, sand showing oil 8975-94 ft, td 10,083 ft.

Iberia Parish: New Iberia—William Helis' Bullock 11, 1028 ft s & 1124 ft w sw cor sec 52 in 25-12s-7e, perf 6226-60 ft, flowed 270 bbls 12/64-in ch, tp 780, cp 750, gr 31, td 6411 ft. Schwing 12, 2885 ft n & 1440 ft e nw c 51 in 56-12s-7e, stuck drill stem, abnd 5965 ft. Texas Co.'s Bryant 8, 1080 ft sw'ly along w l fr most n'ly cor, thence 80 ft se at ra 25-12s-7e, perf 5940-80 ft, flowed 195 bbls 10/64-in ch, tp 750, gr 29.8, gor 490/1, top salt 6515 ft, td 6518 ft.

Iberville Parish: St. Gabriel—Shell's Gueymary 8, ne 18-9s-2e, perf 7770-80 ft, flowed 214 bbls 8/64-in ch, tp 1275, cp 1250, gr 30.5, gas-oil ratio 600/1, other sand showing oil 7746-80 ft, td 7782 ft.

Iberville Parish: Whitecastle—Shell's Wilberts & Sons 20, 4104 ft fr w & 1875 ft fr s l 1-11s-12e, dr to 7086 ft, plugged back and sidetracked, perf 6384-6420 ft, flowed 192 bbls 9/64-in ch, tp 1875, gr 26.6, gas-oil ratio 350/1, td 6600 ft.

Lafourche Parish: Hackberry Bay—Texas Co.'s Lafourche Basin Levee District 1-B, 258 ft n & 10,538 fe e nw c 32-19s-23e, ran log, abnd 8680 ft.

Lafourche Parish: Golden Meadow—Texas Co.'s LLE-Golden Meadow 23, 4620 ft w & 660 ft n se c 78-19s-21e, perf 8475-88 ft, flowed 187 bbls ⅛-in ch, tp 1350, gr 37.7, gas-oil ratio 1300/1, td 9190 ft. State-Catfish Lake 16-378, 2330 ft n & 12,540 ft w se c 78-19s-21e, perf 2625-46 ft, flowed 65 bbls 5/32-in ch, tp 550, gr 27.4, td 2802 ft.

St. Landry Parish: Port Barre—Bering Oil Co.'s Perkins-Cormier 1, 1565 ft n alg w l sec 20 fr intersection with ctr of railroad, 150 ft e at ra in 20-6s-5e, top salt 5215 ft, abnd 5228 ft.

St. Martin Parish: Anse la Butte—Stanolind's Bergeron 8, 1200 ft ne alg nw l fr w cor sec 88, thence se 200 ft at ra in 88-9s-5e, top salt 3963 ft, per, flowed 18 bbls 4 hrs, 9/64-in ch, tp 600, cp 540, td 3969 ft.

St. Mary Parish: Bayou Sale—Humble's Miami 1-D, 4035 ft sw alg s l sec 16 fr e cor thence nw at ra 550 ft in 15-16s-9e, perf 10,142-53 ft, flowed 194 bbls ⅛-in ch, tp 1350 ft, gr 36.1, gas-oil 700/1, td 10,600 ft.

Terrebonne Parish: Bay St. Elaine—Texas Co.'s State 21, Lse 199, 6095 ft s & 3359 ft w ne cor sec 18, sand 7381-7433 ft, flowed 172 bbls ⅛-in ch, tp 1200, gr 31.5, gas-oil ratio 700/1, td 8143 ft.

Terrebonne Parish: Gibson—Shell & Barnsdall Realty Operators 2, Lse 483, Unit 3, 1052 ft n 99 deg 53 mins w, thence 1338 ft s 89 deg 7 mins w fr se c 21-17s-15e, drill-stem 9079-86 ft, recov 10 stands oil & 28 stands salt water, perf 9510-18 ft, flowed 259 bbls 9/64-in ch, tp 1300, cp 1400, td 9533 ft.

West Baton Rouge Parish: West Port Allen—Amerada's Wilberts & Sons 5-A, 660 ft n & e sw c 25-7s-11e, perf 9600-04 ft, sand 9596-9610 ft, flowed 162 bbls 18 hrs 5/32-in ch, tp 1200, gr 36.5, td 9775 ft.

WILDCAT STARTS

Acadia Parish—Stanolind's Theodore Richard 1, Lewisburg area, 115-ac tr, 1734 ft w alg sl n½ sec 20 fr se cor, thence 4467 ft n at ra 20-7s-3e, lcn.

Assumption Parish—George H. Echols & R. T. McDermott's Armelise Planting Co. 1, Napoleonville area, 139-12s-14e, lcn.

North Louisiana

LaSalle Wildcat Flows 144 Barrels on Test

New depth record set for North Louisiana drilling; wildcat oil producer gauged and offset staked; three more locations at Haynesville; two wildcats abandoned.

Depth Record: Union Producing Co.'s McDonald 1, C SE 13-21n-5w, north Lisbon, Claiborne Parish, set a depth record last week as it drilled at 11,854 ft, 20 ft deeper than previous record set in 1941 by same company's Meadows A-1, C NE 18-21n-4w. Before these records North Louisiana depth record held by R. W. Norton's Payne 1, SE SE 29-23n-16w, Rodessa, Caddo Parish, which went to 11,486 ft. Another test, a wildcat, is drilling below 10,000 ft in Claiborne Parish, H. L. Hunt's Mitchiner 1, Section 15-23n-7w, drilling below 10,297 ft.

LaSalle Parish: Carter and Phillips' new wildcat discovery, Tensas Delta D-1, C SE SW 25-6n-3e, gauged 144 bbls oil in 24 hours, through 10/64-in choke after perforating in Wilcox at 4294-98 ft, total depth 5905 ft. Same operators staked offset location.

Wildcats: Carter abandoned Urania 1, SW NE 31-12n-1e, at 3432 ft. Hunter Co. abandoned DeSoto Parish wildcat, Iva Baker 1, C NW 6-11n-14w, at 6062 ft. Carter continued testing Rhodes 1, NW NW 29-9n-10e, Tensas Parish wildcat, which swabbed oil and later showed 100,000 cubic ft gas, after Wilcox perforations at 3394-3405 ft.

Haynesville: Three additional locations staked for Pettit lime (basal Glen Rose) tests at Haynesville, bringing to eight number of new locations for this horizon in that field following completion of two oil wells in that new horizon.

COMPLETIONS

Caddo Parish: Hosston—Bayou State Oil Co.'s Stiles B-1, 27-21n-16w, pumping 11 bbls day, td 1036 ft; State Line Oil Co.'s Levee Bd. 2, 17-21n-16w, pumping 5 bbls daily, td 1008 ft.

Caddo Parish: Vivian-Pine Island—Burnham Drlg. Co.'s Thigpen A-1, 34-22n-16w, abnd 2515 ft.

Caddo Parish: Pine Island—A. H. Carpenter's Chew Est. 1, 5-20n-16w, abnd 42 ft. Stanolind's Dillon 147, 14-21n-15w, pumping 59 bbls oil & 6 bbls sw daily, td 1689 ft; Dillon 146, 14-21n-15w, pumping 19 bbls oil & 2 bbls sw daily, td 1695. L. W. Rinaman's Muslow 1, 20-20n-15w, pumping 4 bbls daily, td 2293 ft. Magnolia's Doan-Thigpen 40, 6-20n-15w, pumping 30 bbls oil, 10 bbls sw daily, td 1540 ft. A. R. Hancock's Helpman 13, 16-21n-16w, pumping 12 bbls oil daily, td 1014 ft.

Claiborne Parish: Homer—Carter's Lowenberg 42, 24-21n-8w, pumping 25 bbls oil daily, td 1304 ft (Nacatoch); Lowenberg 43, 13-21n-8w, pumping 12 bbls oil daily, td 1389 ft (Nacatoch).

Bossier Parish: Sligo—Triangle Drlg. Co., Thigpen-Herold A-8, 13-17n-12w, pumping 50 bbls oil daily, td 3120 ft.

DeSoto Parish: Wildcat—Hunter Co.'s Baker 1, c nw 6-11n-14w, abnd 6062 ft.

LaSalle Parish: Wildcat — Carters' and Phillips' Tensas Delta D-1, c se sw 25-6n-3e, flowed 144 bbls oil in 24 hrs through 10/64-in ch, perf Wilcox 4294-98 ft, tp 500, cp 800, td 5905 ft.

Sabine Parish: Converse—A. R. Chestnut, DeSoto Corp. 2, 27-10n-13w, pumping 30 bbls oil daily, td 1965 ft.

Winn Parish: Wildcat — Carters' Urania Lbr. Co. 1, c sw ne 31-12n-1e, dry, abnd 3432 ft.

WILDCAT STARTS

Catahoula Parish—Delta Drlg. Co. & H. H. Coffield's Davis A-1, se se 1-4n-5w.

Sabine Parish—J. H. Trotter's Lake Charles B. & T. Co. 1, se ne 5-5n-12w.

Arkansas

LaFayette County Field Opener 83 Barrels Hour

New field, which has been named Midway, opened in LaFayette County and 12 locations staked; hearing on new field called January 22; second Mount Holly test, offsetting discovery shows water.

Midway: Barnsdall Oil Co.'s Bond 1, NW SW 11-15-24, LaFayette County wildcat, completed at 6537 ft, after perforations at 6340-70 ft, with 100 shots, flowing 83 barrels 39.5-gravity oil per hour through ¼-in. tubing choke. Opens new Smackover lime field which has been named Midway field.

Arkansas Oil and Gas Commission has called hearing at Lewisville January 22 to pass on applications for 12 locations at Midway. Six locations staked by Barnsdall and permits issued but later revoked pending holding of hearing.

Mount Holly: Second test at Mount Holly, Union County, offsetting discovery oil well, showed salt water when perforated and tested in Smackover lime at 7179-81 ft. Test, northwest offset to discovery well, is Atlantic's Davis B-1, C SW SW 10-17-18. Test logged 21 ft. porosity but checked 9 ft. lower than discovery well. Squeezing off to re-perforate and test again.

Macedonia: Sixth oil producer completed last week at Macedonia, Columbia County, in McAlester Fuel Co.'s Nipper Unit 1, N½ SW 16-18-21, flowing 16 barrels hour through ⅛-in. choke.

COMPLETIONS

Columbia County: Macedonia — McAlester Fuel Co.'s Nipper Unit 1, n½ sw 16-18-21, flowed 16 bbls hr ¼-in ch, tp 2600, cp 2600 ft, top Smackover lime porosity 8912 ft, td 8965 ft.

Columbia County: Dorcheat—Delta Drlg.

Co.'s Hunt 1, sw nw 11-18-22, flow 10 bbls hr ¼-in ch, tp 1200, cp 1000, td 8900 ft.

Columbia County: Buckner—Hammonds et al's McKean 2, sw sw 9-16-22, gauged 5 bbls hr ¼-in ch, 75% sw, td 7249 ft.

LaFayette County: Wildcat — Barnsdall's Bond 1, nw sw 11-15-24, gauged 33 bbls 39.5 gr oil hr on ¼-in ch, tp 840, cp 860, gas/oil ratio 350/1, top Buckner 6151, Smackover 6296, porosity 6304, base porosity 6372 ft, water level 6525, td 6537 ft (New field named Midway).

California

Kern County Shallow Test Reports Oil Sand

Kern County shallow test strikes oil sand; early Ventura County shallow field being abandoned while test well also fails to pick up pay.

Kern County: Shale Hills area shallow test drilled by Etienne Lang, Occidental 2, 30-26-19, cored into the top of oil sand at 1223 ft where hole has been bottomed temporarily. Oil showing is considerably lower on structure than H. C. Morton's project in this area which topped oil showings at 850 ft. Operator is setting water string preparatory to drilling through oil zone.

Ventura County: After producing for more than 50 years the old Conejo oil field in Ventura County, discovered by Union Oil Co. in 1890, is being abandoned. Initial abandonment will cover 22 wells, while about 90 shallow wells in all will be abandoned. Depth of holes range from 60 to 600 ft averaging at 150 ft. Initially some wells made 100 barrels daily, 18-gravity oil, believed to come from Eocene beds and filtered up through volcanics or fault plane into alluvium. Production was lube stock and could be used in trucks and tractors.

In the Santa Paula-Saticoy area, Shell has abandoned Santa Paula y Saticoy 1, wildcat in 21-3-21, after bottoming at 5952 ft in barren sand and hard shale. No showings were encountered.

COMPLETIONS

Fresno County: East Coalinga Eocene—Superior's Cagle 7, sw 6-20-16, flow 1480 bbls 28/64 choke, top Kreyenhagen 5840, Green sand 6990, perforated 7063 to bottom at 7551 ft in Eocene.

Raisin City Area—Seaboard's STU 66-13, se 13-15-17, 18,000 gas, 10/64 bean, perforated 5005-5110 ft. Top shell sand 4978 ft, top "88" sand 5140 ft, top Kreyenhagen 5957 ft, td 5973 ft. Shell's Properties 7-18, sw 18-15-18, 450 bbls 20/64 bean, perf 5022-70 ft, td 5225 ft.

Kern County: Edison Area—J. Paul Getty's Portals 1, sw 5-30-29, 175 bbls through 16/64 bean, perf 4120-4254, oil sand 4210 ft, td 4255 ft.

Kern County: Belridge—Belridge Oil Co.'s No. 55-26; sw 26-27-20, 75 bbls, perf interval 7920-8020 ft, 40/64 bean; top Belridge "15" sand 5110 ft, first deep sand 7625 ft, second deep sand, 7780 ft, top gray sand 9545 ft, td 10,800 ft, plug 8025 ft.

Kern County: Buena Vista Hills—Standard's No. 89-27B, nw 27-31-23, pumped 130 bbls, perf 2579-2769 ft & 2929-3000 ft, top Wilhelm 2519 ft, td 3005 ft.

Kern County: Coles Levee — Richfield's KCL-C 42-27, sw 27-30-25, 2174 bbls, perf 9152-9388 ft, 180 lb/1500 lb, td 9394 ft. Richfield's KCL-A 63-33, ne 33-30-25, 1506 bbls, 22 hrs, perf 8825-9030 ft and 9069-9284 ft, td 9290 ft.

Kern County: Edison—Jergins Oil Co.'s Hershey 9, se 14-30-29, pumped 45 bbls, perf 1240-1680 ft, first oil sand 1245, schist 1644 ft, td 1684 ft.

Kern County: Greeley—General's Mitchell 2, n½ ne 1-29-25, 854 bbls 18 hrs, 12/64 bean, perf 11,455-11, 499 ft, top Rio Bravo 11,474 ft, td 11,500 ft.

Kern County: Kern Front—Carrec Oil Co.'s No. 8; se 11-28-27, pumped 10 bbls, perf 1643-1888 ft, base Macoma Claystone 1095 ft, td 1888 ft. Westates Petroleum Co.'s Cauley 15, se 16-28-27, pumped 190 bbls, perf 2393-2593 ft, td 2593 ft.

Kern County: Mount Poso—Shell's Matthew Fee 10, se 4-27-28, pumped 12 bbls, perf 1792 ft to bottom at 1830 ft. Shell's Matthew Fee 11, se 4-27-28, pumped 3 bbls 10 hrs, perf 1713-1794 ft, top Veeder 1713 ft, td 1794 ft.

Kern County: Mountain View—Standard's Jewett 2-4, ne 16-31-29, flowed 125 bbls 20/64 bean, perf 5886-6110 ft, td 6250 ft.

Kern County: Pyramid Hills—Pacific Western Oil & Gas Dev. Corp.'s West Slope 41, nw 20-24-18, pumped 25 bbls, perf 837-950 ft, Lower Miocene; td 2087 ft, plugged 950 ft.

Kern County: Rio Bravo—Union's Crites 34-28, se nw 28-28-25, flowed 1144 bbls, 22/64 bean, perf 11,462-11,487 ft, top Rio Bravo 11,335 ft, Vedder 11,407 ft, td 11,490 ft.

Kern County: Ten Sections—Shell's KCL A-64-29, nw 29-30-26, flowed 432 bbls 19 hrs, 18/64 bean, perf 8041-8235 ft, td 8235 ft.

Kern County: Mount Poso—Shell's Griffith Fee 3, nw 5-27-28, pumped 20 bbls, perf 1801-1865 ft, top Vedder 1775 ft, td 1865 ft.

Los Angeles County: Dominguez — Shell's Reyes 128, flowed 544 bbls open flow, perf 7895-7778 ft, 7753-7686 ft, 7666-7590 ft, 7570-7530 ft, 7514-7430 ft, 7403-7216 ft, td 7900 ft.

Los Angeles County: Long Beach—Shell's Hamilton 3, Molino & Panorama, pumper, no est. 2499-2480 ft, td 7086 ft, plugged 5332 ft.

Los Angeles County: Wilmington—Hoover, Morse & Steel's Hoover 3, L & Ravenna, pumped 165 bbls, perf 3400-3729 ft, td 3730 ft. Royalty Service Corp.'s Melson B-6, F & Watson, pumped 125 bbls, perf 3504-3074 ft, td 3520 ft. Union Pacific's UP 86, Ford & Anaheim Blvd., flowed 59 bbls, perf 2571-2629 ft, 2643-2687 ft, 2707-2796 ft, 3086-3147 ft, 3466-3551 ft, td 3559 ft.

Santa Barbara County: Santa Maria Valley—Apex Petroleum Corp.'s O'Donnell 1, Lot 37 Paderewski subdv, pumped 340 bbls, perf 5140-5440 ft, td 5440 ft. R. R. Bush & Hancock's Bradley 6, se 26-10-34, flowed 375 bbls 2-in bean, perf 4070-4722 ft, td 4723 ft.

Tulare County: Tipton—Richfield's Hewitt 1, sw 1-21-25, basement complex topped 3475 ft, abnd 3486 ft.

Ventura County: Ventura Avenue—Shell's Taylor 46, flowed 1243 bbls, 2-in bean, perf 8196-7859 ft, 7834-7431 ft, td 8200 ft.

WILDCAT STARTS

Fresno County: Raisin City—Shell's Properties 26-18, sec 18-15-18 lcn; S.A.&F. 22-19, sec 19-15-18, lcn.

Kern County—J. Paul Getty's Mattson 1, sec 6-30-29, lcn, Edison area. Bradford Bishop's No. 2, sec 22-27-28, lcn, Mt. Poso area.

Michigan

Weather and Spacing All But Stop Activity

Hit by worst blizzard and cold wave in four years in combination with unclarified status of drilling wells and new starts result of 40-640 unit federal spacing order, Michigan operations moved at snail pace opening week of 1942. Completions totaled only 11; new starts 8, without a wildcat in either bracket.

COMPLETIONS

Allegan County: Hopkins—Sprenger Bros. Co.'s Arndt 1, se sw se 7-3n-12w, pumped 66 bbls, acidized Traverse 1628-30 ft, td 1632 ft. Clifford Perry's Schafer 4, ne se nw 18-3n-12w, pumped & flowed 60 bbls, acidized Traverse 1571 ft, td 1575 ft. Perry, Gould & Cross' Schafer 4, se ne sw 18-3n-12w, pumped 90 bbls, acidized Traverse 1619-20 ft, td 1624 ft.

Allegan County: Monterey—Regis P. Cook's Wright 4, n½ nw sw 9-3n-13w, abnd 2006 ft.

Clare County: Winterfield—Taggart Bros. Co.'s Acker 99, c ne 30-20n-6w, stray sand 1360-80 ft, flowed 5.4 million gas, td 1385 ft.

Osceola County: Reed City—Ohio's Cooper-Ryan 4, s½ se sw 29-18n-10w, flowed 353 bbls 17 hrs, td 3609 ft. Pure's Gocha-Hewitt 2, c s se nw 32-18n-10w, flowed 1506 bbls, drilled Monroe 3594-3612 ft, td 3616 ft.

Roscommon: Headquarters—American Drilling Co.'s State L1, c s ne ne 33-21n-3w, flowed 528 bbls 16 hrs, drilled Traverse lime 3339-45 ft, td 3351 ft. Ohio's State A2, c s ne se 33-21n-3w, flowed 44 bbls 1st hr, drilled Traverse lime 3290-48 ft, td 3350 ft. Pure's State B2, s se nw 34-21n-3w, flowed 615 bbls, drilled Traverse 3300-90 ft, td 3398 ft.

Van Buren County: Bloomingdale—Fortney & Broughton's Reed 3, ne se se 2-1s-14w, pumped 75 bbls, drilled Traverse 1293-95 ft, td 1297 ft.

A. PHILLIPS has been appointed resident salesman at Beaumont for Allis-Chalmers Manufacturing Company.

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MEN IN THE INDUSTRY'S NEWS

MAX W. BABB, president of Allis-Chalmers Manufacturing Company, Milwaukee, has been elected chairman of the board of directors, and W. C. Buchanan, a director and member of the executive committee, has been elected to succeed him as president. Buchanan has for the past six years devoted a substantial portion of his time to Globe Steel Tubes Company, in Milwaukee, of which he is president, and in which capacity he will continue.

Babb in becoming chairman of the board will fill the position formerly occupied by the late Otto H. Falk, which has been vacant since his death in 1940.

These changes in management were made in order further to improve the company's position, with particular reference to production, as heavy and increasing demands are being made on its facilities in connection with the nation's war work, it was said.

H. B. FELL, executive vice president of Independent Petroleum Association of America, addressed the Shreveport unit of the organization at a luncheon-meeting January 8. L. Moseley Moffitt, Shreveport, vice president of the IPAA for Louisiana, presided and introduced the speaker.

JOHN B. LOVEJOY, Gulf Oil Corporation, has been elected president of Fort Worth Geological Society, succeeding Paul Dean. Other new officers are: Karl A. Mygdal, Pure Oil Company, and R. H. Schweers, The Texas Company, vice president and secretary-treasurer, respectively.

CLINT W. MURCHISON has succeeded J. F. Lucey as president of Talco Asphalt & Refining Company and Talco Pipe Line Company, Murchison and associates acquired half-interest in the companies, which have a refinery at Mount Pleasant, Texas, with pipe lines to nearby Talco and Sulphur Bluff fields, from Byrd & Frost, Inc. in 1939, and early this year purchased one-fourth interest each held by Capt. Lucey and Ralph E. Fair of San Antonio.

W. K. ESGEN, consulting geologist, and L. V. Manry, land man, have opened offices in the Mellie Esperson building, Houston. They will engage in production activities.

W. H. WYNN has been transferred to Michigan by Sinclair Prairie Oil Company, which has just opened its first Michigan land-geological office in East Lansing.

BERNARD H. LASKY, consulting engineer and geologist, Houston, has announced removal of his office from the Commerce Building to the Mellie Esperson Building.

A. A. MURRELL, independent operator and producer, of Castroville, Texas, has been appointed a member of the Tire Rationing Board of Medina County, Texas. Murrell is the owner of a number of producing wells in Medina County as well as producing royalties in New Mexico and Southwest Texas.

DAN E. BOONE, Halliburton Oil Well Cementing Company, gave an illustrated talk on sidewall hole calipers before the Houston Geological Society, January 8.

T. E. SWIGART, president of Shell Pipe Line Corporation, and a member of the petroleum industry transportation committee of district 3, OPC, will be the main speaker at the annual dinner meeting of the Houston Chapter of the American Petroleum Institute, 6:30 p. m. January 14 at Brae Burn Country Club. He will speak on "The Place of Pipe Line Transportation in the Development of the Southwest."

A golf tournament will be held Wednesday afternoon at the country club. Bobby Cogswell, Maintenance Engineering Corporation, is arrangements chairman. Officers for 1942 will be elected at the meeting. Paul Gaurin, Shell Oil Company, is present chairman.

C. E. Reistle, Jr., Humble Oil & Refining Company, is chairman of the committee that will present a plan whereby the chapter will assist a deserving Rice Institute senior student annually in pursuing his work. The award plan will be accepted by a Rice official.

V. L. FROST has joined the geological staff of The Ohio Oil Company to headquarter at Tulsa. Frost, a graduate of Oklahoma University, has been geologist for Mid-Continent Petroleum Corporation.

EVERETTE LEE DeGOLYER of Dallas will be presented with the John Fritz medal at New York, January 14. The American Institute of Mining and Metallurgical Engineers will make the presentation on behalf of the John Fritz Medal Board of Award.

B. S. SoRELLE, 57, former manager of The Pure Oil Company's Texas producing division and engaged as an independent since 1935, died at Dallas January 4. He was a native of Leesville, La., and in 1910 abandoned law practice to work for Gulf Oil Corporation as scout and land man. He servered this connection to become production superintendent for Invincible Oil Corporation in 1921, then after brief period with Simms Oil Company, he was placed in charge of The Pure Oil Company's extensive operations in East and West Texas.

GENE FISHER, assistant division engineer for Stanolind Oil & Gas Company at Fort Worth, recently was made production foreman, a newly created position, at Odessa. W. M. Elias, Stanolind engineer at Wink, Texas, was transferred to Odessa. R. C. Pusey was transferred from Odessa to Wink.

R. J. WOODS, JR., has been appointed district sales manager of a new district sales office in Tulsa of Jones & Laughlin Steel Corporation. The company recently changed Tulsa from a sub-office of the Memphis district to a full district office. Woods has been a sales engineer in the Memphis district office since 1935 and prior to that had been with the Wilson Weesner Wilkinson Company in Nashville and Knoxville, Tennessee, and Atlanta, Georgia, in a similar capacity. He was graduated from Vanderbilt University in 1928.

Other changes involving district sales offices and managers include appointment of John B. DeWolf, formerly district sales manager in New York, as district sales manager in Washington, D. C.; the appointment of S. A. Fuller, formerly district sales manager in Chicago, as district sales manager in New York to succeed DeWolf; the appointment of Eearnest W. Harwell, formerly district sales manager in Memphis, as district sales manager in Chicago to succeed Fuller; and the appointment of E. E. Hoehle, formerly assistant district sales manager in Memphis, as district sales manager in that city to succeed Harwell.

J. OOSTERMEYER was elected president of Shell Chemical Company last week. He succeeds C. B. de Bruijn, who retires after 33 years of service. Since 1939 Oostermeyer has been vice president of Shell Chemical Company. During the last few years he has been active in the expansion of the company's plant facilities for production of chemicals from petroleum.

ALFRED E. WOLF has been named assistant to the president of Standard Oil Company of Ohio. For the last 11 years Wolf has headed reasearch and statistical departments of the New York office of F. S. Moseley & Company.

R. STEINHORST, district engineer, Wichita, for The Texas Company, has been transferred to Tulsa and assumes the duties of assistant division engineer. W. G. Auer succeeds Steinhorst at Wichita.

W. C. WREN, Mid-Continent Petroleum Corporation, Tulsa, is the new assistant general superintendent of transportation under J. M. Linehan.

A. E. HIGGINS, vice president of Pittsburgh Equitable Meter Company and Merco Nordstrom Valve Company, and A. J. Kerr, vice president in Tulsa for the firms, officiated at a sales conference held in Tulsa. Salesmen and engineers representing Arkansas, Louisiana, New Mexico, Texas and Oklahoma districts were present.

PRIORITY FORMS

PD-25C **PD-73**
PD-25D **PD-83A**

IN STOCK AND AVAILABLE FOR IMMEDIATE SHIPMENT

Form PC-25C (revised) is provided as a replacement of the original Affidavit PD-25C. It is for use by those who give to their suppliers a monthly statement of the percentage of the previous month's dollar volume which was for Defense, as defined in the Defense Supplies Rating Plan.

Form PC-25D is provided as a replacement for those who have been using the affidavit as identification for **individual purchases** and who have shown thereon the number of the Order or Certificate assigned a preference rating under which the material covered by that individual order was to be used. For your convenience the new form is a **Customer's Certificate of Defense Requirements** instead of an **Affidavit.**

Form PD-73 pertains to the shipment of steel under Preference Order No. M-21.

Form PD-83A pertains to deliveries of steel from warehouse stock during first quarter of 1942.

★

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Squeaks from the Bull Wheel

Indefinite Definition

H. H. Wilson, of Frick-Reid Supply Corporation, Houston, tells this one on himself:

When he was in college he improved his spare time by doing a number of things, among which was the job of getting out a weekly college paper. One evening just as the paper went to press he got a tip that the girls in a certain dormitory had been quarantined because of an epidemic.

For two or three weeks after the appearance of his paper not a girl on the campus would speak to him. Reason? His headline had read "All Girls in ..... House Confined."

Frozen

Papers recently reported a lady in Longview as having telephoned an automobile agency having in mind to buy a car.

The salesman said, "Madam, car sales are now frozen."

"Oh, dear me, I didn't know it was that cold!"

Noticeable

"She has quite a large repertoire, hasn't she?"

"Yes, and that dress makes it look all the worse."

All Done

The census taker asked Mandy the names of her children.

"Eenie, Meenie, Minie and George."

"Why did you name him George?"

"Cause we doan want no Mo."

Polite Conversation

I hope you don't mind my eating while you smoke.

Not at all, madam, as long as I can hear the orchestra.

In Science Class

"What happens when a body is immersed in water?"

"The 'phone rings."

'Ray!

A negro girl was asked if she had been x-rayed.

"No, suh," she replied, "but I'se been ultra-violated."

By the Back Door

"Why does a man hate his mother-in-law?"

"He doesn't hate her; he simply hates to think of the way she got into his family."

Turnabout

One year and $50 fine.

Your Honor, I beg the sentence be reversed.

Very well. Fifty years and $1.

Side Views

Wife—Did you see those men staring at that girl as she got on the train?

Husband—What men?

Expert Observer

Brown and Smithers, anxious to quit the party, which had continued long beyond the specified time, impatiently awaited the leave-taking of their respective wives.

"Women," complained Brown, "are usually dilatory in bringing their functions to a close."

"Yes," agreed Smithers, who had just glimpsed his wife approaching in an expensive new evening gown, "but never in bringing their clothes to a function."

Wrong Motif

"So you think you don't want this new green dress? Why not?"

"No suh! Not me! Ah'd look too much lak a ton o' coal in a lettuce patch."

Slightly Confused

An absent-minded bride, anxious not to forget to order two chickens for dinner, repeated to herself while clearing away the breakfast things: "Grocer, chickens; grocer, chickens." The words became confused in her mind, so that when she went to the telephone she asked: "Have you any nice grocers?"

"Why—why—yes," replied the astonished voice at the other end of the wire.

"Well," said the bride, "send me two dressed."

"Dressed?" asked the voice, more astonished than before.

"Why, no," responded the bride, "I believe you may send them undressed. If my husband comes home early he will wring their necks and the cook can dress them."

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NOTES FOR THE Equipment Buyer and User

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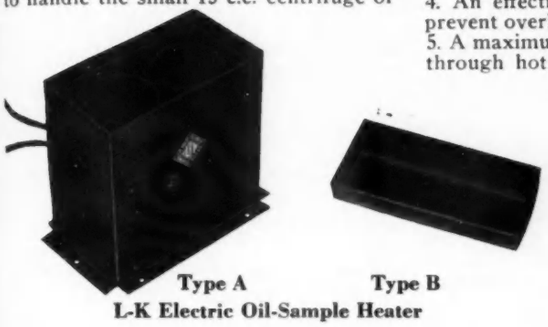
L-K Pump Valve Company, 632 North Edgewood, Houston, has announced the electric oil-sample heater, available in models A and B. Model A is designed to handle the small 15 c.c. centrifuge or small A.P.I. tubes. Model B is designed to handle the pear-shaped A.S.T.M. 100 or 200 c.c. tubes. The heater is compact, lightweight, and safe from danger of sparks or causing fires. It works from the car batteries.



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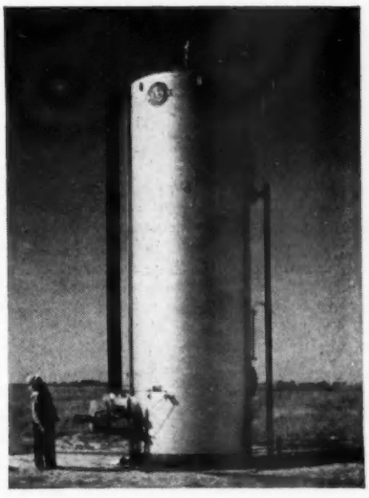
In 3 distinct steps the BS&B three-stage treating unit strips off free water and free gas in a separate free water knockout and gas separating flume; separates all gas liberated from the oil and emulsion by application of heat before the settling action is reached; and, settles out the last small percentages of water from the oil before it leaves the treating unit. A temperature controller provides automatic operation of the heating element for uniformity of treating temperature.

An important feature is that the cool gas released in the first stage is mixed with the warm gas from four points in the second and third stage, thus cooling the outlet gas and condensing the lighter fractions of the oil. The condensed fractions drop back into the settling section 3. There is a common blanket of gas over all the flumes and receptacles in this three-stage treating unit. The cool gas first liberated as the inflow enters the vessel cools the gases rising from the other compartments.



BS&B three-stage treating system

Houston Nomads Chapter Will Meet January 14

Houston Chapter of Nomads will hold its second annual meeting Wednesday, January 14, at the Houston Club. There will be a short business session at which officers for 1942 will be elected. Dinner will be served, and there will be favors for the women. Music will be played by one of Houston's best orchestras.

Arc Welding Takes New Place in U. S. Industries

"Practical Arc Welding," a textbook by W. J. Chaffee, 516 pages, 512 illustrations. Published by Hobart Trade School, Inc., Troy, Ohio, $2.

Arc welding is the seventh largest industry in the United States and the Allies' most important defense tool. Tanks, guns, planes, ships, and military vehicles are now completely arc welded. Add to this tremendous program the abnormal amount of arc welding performed in all places where metal is joined, and you begin to comprehend how prominent a place arc welding holds in American industry today. The result of this sudden acceleration of welding activity has been an unprecedented demand for trained welding personnel.

Part I is devoted to general welding information. Material covered includes the growth of arc welding; where arc welding is used; manufacturing applications; available metals and alloys; discussion of joints and welds; electrodes and filler rods; strength of arc welded joints; cost of arc welding; characteristics of the welding arc; welding symbols and their use; equipment for arc

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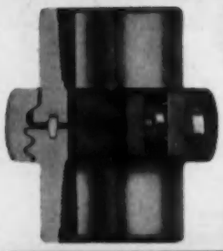

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Parts II and III are devoted to the complete series of arc welding lessons exactly as they are offered in the Hobart trade school. This group of 41 lessons covers preliminary instructions; starting and manipulating the arc; common joints with bare electrodes; welding light gauge sheets with coated electrodes; welding with coated rods in all positions; pipe welding; welding cast iron; special tests; welding with the carbon arc; "long arc" method of welding copper; and specialized applications of arc welding.

Parts IV and V contain a complete dictionary of welding terms and 20 pages of helpful tabular data for operators and designers.

Electric Sets

Caterpillar Tractor Company, Peoria, Illinois, has issued a 20-page booklet on the advantages of making one's own electricity with Caterpillar diesel-electric sets. Better than ordinary diesel economy, a source of current entirely independent of outside interference and simplicity of operation are among the features claimed for the sets by the manufacturer.

Plants, Services

Koppers Company, Tar and Chemical division, Pittsburgh, Pennsylvania, has just published an 8-page folder which summarizes all of Koppers' important products, plants and services. The list ranges from Koppers coals and coke to light oil plants and purification systems; from valves, castings, forgings, couplings and piston rings to roofing, tar-base paints, and pressure-treated timber products.

Two pages are devoted to the uses, technical description and characteristics of tar acids, tar acid oils, and coal tar solvents.

Completions

B. and W. Inc., Houston and Los Angeles, has issued an 8-page bulletin consisting principally of an article reprint, "Casing Movement While Cementing," by Bruce Barkis and Kenneth Wright. The article stresses the importance of eliminatins as many failure factors as possible during the most important stage of well completion—that period between the running of the last two casing joints and continuing through until the final displacement of the cement.

A detailed description is given of the efficacy of wall cleaning guides in removing mud filter cake from the wall of the hole.

Steel

Jessop Steel Company, 560 Green Street, Washington, Pennsylvania, has issued a new 16-page price list for silver-ply stainless-clad steel. The list contains base prices for sheets and plates of silver-ply for 12 grades of cladding, in proportionate thicknesses of cladding from 5 to 50 percent. The section on standard classification of extras for plates includes tables on machining, shearing and flatness tolerances, estimated weights, and size limits for standard production plates and sheets. The standard classification of extras for sheets includes extras for finish, shearing, size, quantity, etc.

The last section contains prices for forming standard flanged and dished heads, A.S.M.E.-A.P.I. flanged and dished heads, and elliptical dished heads, as well as prices for machining heads.

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* Indicates that detailed information on the manufacturer's products or services may be found in the 1941 edition of The Composite Catalog of Oil Field & Pipe Line Equipment.